STATE OF MINNESOTA DISTRICT COURT

COUNTY OF RAMSEY SECOND JUDICIAL DISTRICT

- -

The State of Minnesota,
by Hubert H. Humphrey, III,
its attorney general,
and
Blue Cross and Blue Shield
of Minnesota,

Plaintiffs,

vs. File No. C1-94-8565

Philip Morris Incorporated, R.J.
Reynolds Tobacco Company, Brown
& Williamson Tobacco Corporation,
B.A.T. Industries P.L.C., Lorillard
Tobacco Company, The American
Tobacco Company, Liggett Group, Inc.,
The Council for Tobacco Research-U.S.A.,
Inc., and The Tobacco Institute, Inc.,

Defendants.

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DEPOSITION OF ZALMAN AMIT, Ph.D.

Volume I, Pages 1- 217

(The following is the Deposition of ZALMAN AMIT, Ph.D., taken pursuant to Notice of Taking Deposition, at the offices of Dorsey & Whitney, Attorneys at Law, Pillsbury Center South, 220 South Sixth Street, Minneapolis, Minnesota, on August 28, 1997, commencing at approximately 10:08 o'clock a.m.)

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E X A M I N A T I O N I N D E X

WITNESS	EXAMINED BY	PAGE
Zalman Amit, Ph.D.	Mr. Silberfeld	5

E X H I B I T I N D E X

EXHIBIT	DESCRIPTION	REFERENCED/MARKED
Plfs. Ex. 658	Photocopy of book, "Stop Smoking for Good" by Amit, Sutherland, Weiner; 112 pages	88/202

P R O C E E D I N G S

(Witness sworn.)

ZALMAN AMIT, Ph.D.,

having been called as a witness and having been first duly sworn, testified under oath as follows:

EXAMINATION

BY MR. SILBERFELD:

Q. Would you state your full name for the record, please?

A. Yeah. Zalman is as it sounds, as it states, Z-a-l-m-a-n, Amit, A-m-i-t.

Q. Dr. Amit, have you ever had your deposition taken before?

A. Once. By phone.

Q. How long ago, sir?

A. Year ago, year and a half ago.

Q. What was the nature of that action?

A. It was an action for -- of an individual who was suing the tobacco industry for damages.

Q. Which state was that action pending in, do you know?

A. In -- I believe in Kansas.

Q. Did you ever testify at the trial of that action or has that come to trial yet, do you know?

A. I believe not.

Q. And how long was your deposition in that case approximately?
A. Around three hours.
Q. And what issue or questions, question areas did you testify about, what opinions did you render, if any?
A. With regards to the nature of the dependence properties or lack thereof of cigarette smoking and the fitness of the -- that particular witness, how did he fit into that picture.
Q. The particular person who was suing?
A. That's correct.
Q. And whether he -- he or she had a dependence or not, as the case may be?
A. That's correct.
Q. Is that the substance of it?
A. That was one of the issues, yeah.
Q. Was the person suing a male or a female?
A. Male.
Q. Okay. Was that gentleman someone about whom you looked at medical records?
A. No. I have looked at his own deposition or --
Q. Uh-huh.
A. -- and several expert reports of people on his side, and I believe that's about it.

Q. Did you write an expert report in that case?
A. Yes, sir, I did.
Q. Summarize for me, if you would, what your opinions were in that case, both in the deposition and in the expert report. I assume they were the same?
A. Similar at least. I, first of all, in more general terms stated something that I believe as a -- as a professional, and that is that the term "addiction" to describe cigarette smoking is an inappropriate term, and that while I acknowledge some bond between the cigarettes and the smokers, I was not supportive of the view that it has been demonstrated that nicotine is the substance that is producing that bond between the cigarettes and the smokers. I dwelt at least at some length on the issue of the ability of individuals who have been smokers to quit and stated that in my opinion all of them, if they really want to, can quit, and in fact pointed out on the basis of the -- the material that I read of this particular individual that in fact when he decided to quit, he quit, and successfully and in fact by his own admission without any difficulties. I then interpret that and concluded on the basis of that that he certainly was able to quit

and he did and did not by himself admit any particular difficulties in doing so, and therefore in my opinion he was not severely dependent on -- on cigarette smoking and was able to quit. That's roughly speaking I think what -- what I've said.

Q. Thank you.

What was the name of that individual?

A. The name was Burton. I don't remember his first name, but I --

Q. That's all right.

A. Burton.

Q. B-u-r-t-o-n?

A. I believe so, yes.

Q. And who was the attorney that took your deposition, by telephone?

A. I don't remember his name. Somebody, I believe, from Kansas City, but I don't remember his name.

Q. Other than that case and this case, have you worked on any tobacco-related cases for any side?

A. Worked -- would you -- would you explain what you mean by "worked"?

Q. Done anything.

A. Yes.

Q. Of a professional nature.

A. Yes.

Q. All right. What other cases have you worked on?
A. I worked on a -- a case -- another case of an individual who was suing the tobacco I will use the term "industry" because I'm not always sure who -- what company or -- or specifically was suing so, --
Q. That's fine.
A. -- you know, suing the tobacco industry, for -- again for damages.
Q. And you were testifying for the industry.
A. I did not testify, I just prepared an expert report and --
Q. On behalf of the industry?
A. On behalf of the industry, that's correct.
Q. And when was that, sir?
A. I think less than a year ago. Say, roughly speaking, 8, 10 months ago or something like that.
Q. And the Kansas case was about a year and a half ago?
A. To two years ago. Roughly.
Q. And this second case where you prepared a report only was a similar case to the Burton case in the sense that it was an individual smoker suing for injuries?
A. That's correct, or death. I don't know which. No, injuries. Yeah.

Q. And was the essence of your opinion and report in that second case different fundamentally than the opinions you had rendered in the first case, the Burton case?

A. No, not really.

Q. I'm sorry?

A. Not really. No, about -- about the same.

Q. All right. Other than the Burton case and the second case involving the tobacco plaintiff suing the industry for injuries, have you been involved in any other cases for either side, other than those two and the State of Minnesota case?

A. I have -- yes, I have been involved recently in a case where I have -- again of an individual suing the -- the -- at least a component of the tobacco industry, I'm trying to be precise, I don't know, and again for -- for damages, and again what I have done so far is prepared a -- an expert report.

Q. When you say sued a component of the industry, what do you mean?

A. I'm not sure whether it's all the companies or one company or two companies, but it's somebody in the tobacco industry.

Q. And that report has been issued. I mean it's been provided to the other side?

A. I have no idea.
Q. All right. Was your opinion in that case or your opinions in that case fundamentally different than in the prior two cases?
A. No.
Q. Any other cases other than the three individual plaintiff cases for personal injuries and the State of Minnesota case in which you have been involved, up to today?
A. Yeah. I have prepared again a report a few years back, I don't remember now when, in the -- what was called the Castano case. In --
Q. What -- I'm sorry, go ahead.
A. In fact in that case I believe the report was in the form of a sworn affidavit.
MR. NIMS: I --
A. But I'm --
MR. NIMS: Can we go off the record a second?
COURT REPORTER: Sure.
(Discussion off the stenographic record.)
MR. NIMS: Let's go back on. Dr. Amit, might you be confusing the Castano case with the Engle case?
THE WITNESS: It's possible. I --

BY MR. SILBERFELD:

Q. Do you recognize the name, the Engle case?

A. Yes, sir.

Q. What is the Engle case?

A. I believe the Engle case is a class-action suit brought by one individual on behalf of others in Florida -- in the State of Florida, again against the tobacco industry.

Q. What's the nature of that case as far as you understand it?

A. My understanding of the nature of that case is that the -- that group of individuals represented by that individual are suing the tobacco industry for, among others, not informing them of the fact that cigarette smoking is -- is, quote-unquote, "addictive," and that they had difficulties in -- in quitting as a result of that and as a result of that they are -- some -- some damage has accrued to them and where their addiction to cigarettes was a part of that -- of that damage.

Q. And in what phase of the case or for what purpose, if you know, did you submit a sworn affidavit in that case?

A. No, I don't know.

Q. Tell me what the substance of that affidavit

was?

A. Well, in a sense to the state -- you know, statements or reports that I've written before talking about the nature of the dependence or the -- as I said, the bond between people and cigarette smoking and the -- the nature of that bond with regard to their ability to quit or not to quit smoking.

Q. Okay. Any other cases that you have been involved in?

A. I don't think so.

Q. Okay. We talked about four cases plus this one; that's five.

A. Uh-huh.

Q. Any others that you've been involved in that you know of?

A. I don't think so.

Q. The first case was called Burton. The second case, which was less than a year ago you told me, what was the name of the plaintiff in that case?

A. I believe Sampson.

Q. Sampson?

A. (Witness nods head.)

Q. As in Delilah?

A. In Delilah. In Delilah, yes, that's right.

Q. And what state was that case in?
A. That was also in Florida, I believe.
Q. And the third case involving the individual smoker that was within the last few months I think you said where you prepared the expert report, fundamentally the same opinions, what was the name of the plaintiff in that case?
A. I can't spell it, but the best that I can read the name is Karbwiniuk.
Q. Does it begin with a K or a C?
A. K, K. K-a-r-b, I think, w-i-n-i-u-k, some -- no guarantee, but something like that.
MR. NIMS: Just --
Q. It's spelled just like it sounds?
A. Uh-huh.
Q. Okay.
MR. NIMS: Just --
MR. SILBERFELD: Yeah, go ahead.
MR. NIMS: Just for the record, I believe -- I believe in Karbwiniuk he actually authorized an expert disclosure as opposed to actually preparing a report, just to make sure you understand that.
Q. And what state was that in?
A. Also in Florida.
Q. Do you know what town in Florida?

A. I think Jacksonville.
Q. Is that also true with Sampson?
A. No, but I can't tell you what -- what town it was.
Q. And the -- the Engle case was also in Florida?
A. That's correct.
Q. Do you know the names of any of the lawyers involved in the Engle case?
A. No.
Q. All right. With respect to your work in these four cases, we'll put Minnesota aside for a moment, have you dealt with one individual who has arranged for you to become involved in those cases and has sort of been your contact person with respect to those?
A. That's correct.
Q. And who is that?
A. That's Michael Nims.
Q. And how long have you known Mr. Nims, all told?
A. I would guess about three years.
Q. Before three year ago, had you had any contact whatsoever in any respect with anyone having anything to do with tobacco litigation?
A. Yes.
Q. When was the first time that you had such a

contact?
A. In 1989, I believe.
Q. And describe that to me.
A. This was a case where the Canadian -- this is a Canadian case, and where the Canadian tobacco industry was suing the government -- the government of Canada because of legislation the government brought to for -- to forbid all tobacco-related advertising.
Q. And tell me the role you played in that case.
A. I advised the lawyers representing the tobacco industry on matters of -- again on matters of tobacco dependence and also did some research on the literature related to the impact of advertising on the onset of smoking.
Q. We'll get to your dependence opinions certainly in this case, but what was your opinion about the impact of advertising on the decision to either begin or continue smoking as of 1989 when you did this work?
A. My opinion was that an examination of literature, which I believe I did, revealed that there is no evidence to support the contention that advertising has an impact on the onset of smoking.
Q. What's the basis of that? Explain the rationale

of that opinion to me.

A. I --

MR. NIMS: Objection. Beyond the scope of his report in this case.

Q. Go right ahead.

A. I examined the literature and examined all the studies, at least as many as I could lay my hands on, of the reports and studies on this issue of what are the factors that contribute to the onset of smoking? I found two studies that addressed that specifically, that issue specifically, and they came to the conclusion that advertising is not a predictor of the onset of smoking among youth.

Q. Do you recall those studies?

A. I recall the authors. I can't tell you the -- the name of the study, --

Q. That's fine.

A. -- but I recall one of them was by Goddard.

Q. Any others?

A. And the other one by Charlton and Blair.

Q. Do you recall the journals in which they were in?

A. No.

Q. Do you recall the decade -- I'm sorry, you were going to answer.

A. Yeah, I believe that -- all I can tell you is that Goddard was a British paper and I believe the Charlton and Blair was an American paper, but I believe that's about all I can say about that.

Q. Did either of those studies analyze the impact of advertising on young people as distinguished from just adults?

A. That's correct.

Q. And what were the factors that were identified in those papers relative to the impact, if any, of advertising on the onset of smoking?

A. Other factors you mean?

Q. No, the factors that the studies talked about.

A. Yes, but are you asking me factors other than advertising?

Q. Yes. The ones that they concluded were the important operative factors in the onset of smoking.

A. The main ones that they talked about are rebelliousness.

Q. Rebelliousness.

A. Rebelliousness.

Q. Okay.

A. Peer example. Availability of cigarettes. These are the -- the three main factors that they were talking about.

Q. Okay. Did you come to any conclusion in the course of your work in 1989 as to what the purpose of advertising of cigarettes was?

MR. NIMS: Objection.

THE WITNESS: What do I do now? Continue or --

MR. NIMS: You can answer.

MR. SILBERFELD: You can continue on. He has to do that to stay awake.

A. No, I did not -- I did not conclude what is the purpose of advertising. That wasn't, you know, what I -- I was asked to do, and no, I did not.

Q. Okay. And what was the outcome of that matter having to do with restrictive legislation on advertising cigarette products?

A. The court decision in the first instance, the one that I participated in as an advisor to the -- to the lawyers, --

Q. Yes.

A. -- concluded against the government, and I don't know, I would not repeat the legalese, --

Q. Sure.

A. -- but the decision was that that decision was either illegal, unjust, and the judge overturned that -- that legislation. The government then appealed

to the Court of Appeals, the Quebec Court of Appeals, this whole action took place in Montreal, Quebec, so they appealed to the Court of Appeal and the Court of Appeal overturned the decision of the lower court, and then the industry took it to the Supreme Court of Canada and the Supreme Court of Canada overturned the decision of the Court of -- the Quebec Court of Appeal.

Q. Did you give any testimony of any kind in that 1989 case?

A. No.

Q. Did you write any reports?

A. No.

Q. Your role was merely, I don't mean to belittle it, but as an advisor to the attorneys?

A. That is correct.

Q. And these were just the attorneys for the tobacco industry of Canada?

A. That is correct.

Q. Between that experience in 1989 and meeting Mr. Nims, which was a notable occasion I'm sure, three years ago, did you have any other work that you did in connection with tobacco-related issues?

A. No.

Q. And when you were first contacted was it by Mr.

Nims himself to say hello or were you introduced by someone else?

A. One of the lawyers that I was involved with in 1989 contacted me and asked whether I would agree to meet with a lawyer from the United States who was involved in tobacco legislation, and I agreed, and then the meeting was set up for me to meet Mr. Nims.

Q. And who was that that introduced you?

A. Mr. Colin Irving.

Q. Is he a Canadian lawyer?

A. That's correct.

Q. And then you met Mr. Nims approximately three years ago?

A. Approximately.

Q. And once the pleasantries were out of the way, what was the purpose of the meeting as far as you understood it?

A. Well, actually very little pleasantries.

Q. I figured that but I thought I'd be nice.

A. Okay. Mr. Nims asked me about my views about -- first of all, asked me a little bit about my background, my academic background and professional background, and then asked me about my views on tobacco dependence, and we had a conversation, I am not able to recall the details of that

conversation, --
Q. Okay.
A. -- but conversation about my -- my -- primarily about my views about the issue of dependence -- the whole issue of drug dependence in general and more specifically about tobacco dependence. And at the end of that conversation Mr. Nims asked me whether I would agree -- should they want me to would I agree to -- to act as an expert witness for the -- for the -- the lawyers that are representing the -- the tobacco industry, and I said that I will. And that was essentially the essence of the -- the -- that conversation when I first met Mr. Nims.
Q. When you agreed to act as an expert witness in this -- and I take it that was in the first meeting with Mr. Nims?
A. That's correct.
Q. What did you agree to testify about?
MR. NIMS: Objection.
Q. Go ahead.
A. Do I continue?
Q. Yeah.
MR. GINDER: Counsel, just a second.
(Discussion off the stenographic record.)
MR. NIMS: Again, my -- my understanding of

the rules that are being employed in this case are that, you know, you're entitled to ask about the fact of meetings and how many, but you're not asked -- you're not entitled to ask about the substance of communications with counsel. If I am right that those are the rules that are being employed in this case, I think you're now asking about the substance of -- of discussions with counsel, even though you're asking about other cases, and I -- I think that's inappropriate as I understand the rules.

MR. GINDER: I'd also make another objection as to his work product, and we'd instruct the witness not to answer as to substance of communications with lawyers concerning -- concerning the case. But if you want to inquire about time of meetings or place or that, that's perfectly all right.

MR. SILBERFELD: Well let me -- let's do this: Let me have the question reread and then you make whatever objection and instruction you want to make. I don't think it has anything to do with either this case or any case for that matter. But please listen to the question and see if you have any different view of it.

This is more directed at counsel, Doctor,

and you'll follow the instruction --

THE WITNESS: I will listen.

MR. SILBERFELD: -- that they give you. Let's do that.

(The record was read by the reporter.)

MR. GINDER: I guess without knowing what the witness is going to say and with respect to this case only, which is the only case I'm involved on, I don't know which case he may have been conferring with Mr. Nims about at that time, but with respect to the substance of any communications with counsel or the details of those communications, I would assert work product privilege, attorney-client privilege, and instruct him not to answer. With respect to the other cases, I'll leave that to Mr. -- Mr. Nims, and if the witness can answer the question without going into the details or the substance of the communications, he can do so, but that's the objection and that's the instruction for this case.

MR. NIMS: Do your understand, Dr. Amit, the question is what did you agree to testify to, not --

MR. SILBERFELD: What subject areas.

MR. NIMS: It's not what did I say to you. It's what did you agree to testify to? Can you

answer that?
A. I -- yeah, I can testify -- I can answer that question by saying that I agreed to testify on matters related to drug dependence and tobacco dependence.
MR. SILBERFELD: See, it wasn't so painful.
BY MR. SILBERFELD:
Q. At the meeting you had with Mr. Nims approximately three years ago was anyone else present?
A. No, I don't believe so. I think that Mr. Irving joined us to say hello and to shake Mr. Nims' hand, but he did not stay for the -- for the conversation.
Q. And as a result of that first meeting where you agreed to act as an expert witness, what was the next thing that occurred in aid of or in furtherance of that agreement?
A. I don't remember what was the next step.
Q. When did you next hear from Mr. Nims or anybody else in connection with being an expert witness, the next day, the next week or the next year?
A. I think a few months later, but --
Q. What -- what happened a few months later?
A. I think to the best of my recollection Mr. Nims

called me on the phone just to see -- just to see how I am, you know, and things, almost just a -- a social call.

Q. He does that with me too so --

A. Oh, he does, hey.

And I believe, although I'm not sure, that I at that conversation suggested to him that I will continue to follow the literature and collect recent work on -- on -- particularly on the issue of -- of tobacco dependence so that I will be up to date on what's happening in the literature, and he said something like "Go ahead".

Q. Well was it part of your charge as a result of the first meeting --

A. That's correct.

Q. -- to keep abreast of the medical literature as it relates to tobacco dependence?

A. Mostly the psychopharmacological literature, not the medical literature.

Q. With that limitation, is the answer to my question yes?

A. Yes.

Q. And from and after the time you first met Mr. Nims did you keep abreast of the psychopharmacological literature as it relates to

tobacco dependence?

A. I believe so.

Q. A few months later he called and you confirmed with one another that you were going to continue in that process?

A. That's correct.

Q. And have you continued that process up to today?

A. I believe so.

Q. And have you collected somewhere all of that literature that you have reviewed or kept abreast of for the last three years approximately?

A. I can't say that I collected all the literature, but I collected as much as -- you know, as much as I could, with one exception.

Q. What's the exception?

A. That during that deposition that you were asking me about that took place on the phone I had to give the court reporter a large chunk of the papers that I've collected as, you know, on this -- and never got them back, even though I have requested them at least I would say roughly a half a dozen times, I have never got them back, so I -- and some of them I was not able to replace, so I am still missing a substantial part of the material that I collected.

Q. And if it were sitting on the table, how high

off the table would it go?

A. I don't know.

Q. Or maybe -- or maybe the floor.

A. Some (gesturing) --

Q. Two inches' worth of material?

A. Some -- the one that is missing?

Q. Yes, sir.

A. Yeah, let's say about that. Actually I think it's less, but I'm not sure.

Q. Tell me the process or procedure or approach that you used from and after the time Mr. Nims asked you to kept abreast of the literature.

How did you go about doing that?

A. Mostly I read.

Q. Well how did you find articles or papers?

A. Oh, that's -- that's quite easy. First of all, I follow a number of journals, you know, fairly regularly to see what they -- you know, what they publish. Secondly, I follow a -- a journal, it used to be a journal, now it comes in a disk form, you know, in a computer disk form called "Current Contents" which gives you a list of the contents of just about any journal in a specific field, and they come in various sections, and I was following the "Current Contents" in the life sciences. And on top

of that today we have available to us what's called literature searches where you basically tap into a database and -- a computer-generated database and ask, give key words, and that computer will then give you back papers that have been published that have these key words in them.

Q. Things like Medline?

A. Things like Medline, that's right.

Q. And what was your habit and custom with respect to keeping abreast of the literature for the last three years; that is to say, how often did you go and do research? Weekly? Monthly? Quarterly?

A. No, not weekly. It varied. I would say monthly. But it varied because there could have been a -- an instance where there were quite a number of papers that I wanted to read so that took more time, and then there was a period of time in which there wasn't, so -- but in terms of kind of checking and checking the -- the literature I would say, roughly speaking, a month -- monthly, something like that.

Q. And when you saw something of interest, Dr. Amit, would you have it printed or order it from the journal or the library and put it in the collection?

A. Even though it's not perfectly legal, we usually xerox papers that we --

Q. Ahh --
A. -- that we see and -- and then if these papers were available in the various libraries in my city, I would try to get -- or if I'm -- I'm subscribing to -- to a number of journals, but other than that, if they're available I would send one of my assistants to just copy the -- you know, copy the paper, and if not, then it was a matter of judgment. If I felt that it's really very important, I would then try to get it through inter-library loan. If it was not terribly important, then I would let it go.
Q. And have you kept and maintained, with the exception of the materials that were lost to the court reporter, all of the articles that you've collected over the last three-year period?
A. I believe so. I mean I'm -- I'm disturbed by your word "all".
Q. Substantially all.
A. Yeah, most. I would feel more comfortable with saying yes, most of them.
Q. All right. And when you would come across an article that was of interest to you and you've actually got the article in your hands, tell me how you would go about studying it, reading it, memorializing it in any way.

A. I would -- I would read it. If there was anything that I thought was particularly important, I would highlight it on the -- on the -- on the -- on the copy that I was reading, and then that would be mostly what I would do.
Q. Do you have a habit of making any margin notes of --
A. Sometimes, not --
Q. -- of things of interest?
A. I'm not -- I'm not a prolific margin note writer, but yeah, there would be some times when I would -- I would make some -- some margin notes, yes.
Q. Was it your habit and custom to take notes on another piece of paper of things of interest --
A. No.
Q. -- as you saw them?
A. No. I don't do that.
Q. So is it true that you have no notes whatsoever of any literature review that you've conducted with respect to tobacco-related issues for the last three-year period?
A. With the ex -- if you mean with the exception of, you know, what highlighting in the text or making some margin notes --
Q. I mean on --

A. -- on a separate piece of paper --
Q. I mean on a separate piece of paper.
A. No, I don't.
Q. And your review of the papers may well contain either highlighting which is some emphasis by you or a margin note?
A. Yes.
Q. Do you have those with you?
A. No.
Q. Where are they?
A. At home.
Q. Montreal?
A. Yes.
Q. Have you reviewed that -- the literature in preparation for your testimony here today or the rendition of your expert report in this case?
A. In this specific case. I reviewed -- well no, I -- that's hard to answer. I -- I reviewed some papers recently, but I would have reviewed them anyhow, even if I was not involved in this very specific case, so it's hard really to say that I've reviewed them specifically for this case, although in terms of the time parameters it was around that time.
Q. And the purpose of that review was to do what?

A. To update myself about what's happening in the -- you know, in the literature. What do people publish? What new studies have come up? What were the results of the studies? And so on.

Q. Uh-huh. In the last three years since you first met Mr. Nims, have you yourself conducted any research, studies, any original work on the issue of tobacco dependence?

A. No.

Q. I get the impression from your CV and your writings that you personally have spent the vast majority of your career on the effects of alcohol; is that true?

A. That is quite correct.

Q. Have you ever in your career done any original research, study, experiment, test of any kind with respect to the effects of tobacco?

A. Yes.

Q. Okay. And is that noted somewhere in your CV?

A. I'm sure it is, yeah.

Q. Let me show it to you. Do you have it handy, your CV?

A. No.

Q. Here's your CV that's attached to the Expert Report, Doctor.

A. Uh-huh.
Q. I wonder if you'd be kind enough just to mark for me which paper or study by you relates specifically to tobacco.
A. How do you want me to mark it? It seems to be marked here already.
Q. Is it already highlighted?
A. It's highlighted, yeah.
Q. Okay. How about the next page, anything on the next page?
MR. GINDER: Could you read the title into the record so that we have it.
A. Yes, it's authored by Sutherland, A., Amit, Z., Golden, M., and Roseberger, Z., published in 1975, "Comparison of three behavioral techniques in the modification of smoking behavior," published in the Journal of Consulting and Clinical Psychology, Volume 43, pages 443 to 447. So should I --
Q. No, that's fine.
A. Fine.
Q. If I've already had the foresight to mark it, go ahead.
A. There is, I believe, only one other piece of paper, it is not an original, you have asked me in the context of original research, it's not an

original research, but there is one other piece of published work that I have done in relationship to tobacco.

Q. And what is that, sir?

A. This is a self-help book called "Stop Smoking for Good".

Q. Okay. And that was also in 1975?

A. 7 -- I believe that the exact date public -- date of publication is 76, but I'm not a hundred percent sure.

Q. 1976. This is the book; correct?

A. That is correct.

Q. If I may.

(Handing.)

Q. When you participated in the paper with Sutherland and Golden in 1975 had you done any work on tobacco before that time?

A. No.

Q. And other than the -- the self-help book as you describe it, you have not done any tobacco research other than for this litigation perhaps, since that time?

A. No, I have not done any -- any research on -- on -- again, I would appreciate it if you will specify what you mean by "research" because people have

different -- different meanings to the word "research".

Q. An attempt to answer a previously-unanswered question or to verify the answer to another medical or scientific question by the performing of experiments or the design of a study, something other than reading an article which is also a form of research?

A. The answer is no.

Q. By that definition?

A. By that definition.

Q. All right. And explain, if you would, how it came to be that you participated in this one study of tobacco or smoking behavior in 1975 with Sutherland and Golden, et cetera?

A. Around the same time, around that time a fellow by the name of Bernstein published a paper on the usage of behavior modification for the -- helping people in smoking cessation. The people that are the coauthors of this paper are colleagues of mine, and we were meeting at the time what is called a lab, a research lab meeting, we were meeting once every week or ten days or so, and talking about research, research issues. Every person was free to bring up any topic that they wanted for discussion. And one

of them brought up the whole idea, I mean on the basis of review, I believe, it's been a long time ago, but I believe that he reviewed the Bernstein paper and we started to talk about it and from that evolved the idea of doing the study that we have done.

Q. And describe the study to me.

A. The study was based on a conditioning or learning principle that assumes that if you want to modify behavior, or at least it was assumed at the time that if you want to modify behavior, the best way to do that is to suppress the behavior to be changed and replace it with another behavior that is incompatible with it.

Q. Let me see if I got that down right. The theory was if you want to modify behavior, you suppress the behavior to be changed and replace it with another behavior compatible --

A. Incompatible.

Q. -- I'm sorry -- incompatible to the behavior you want to change?

A. That's correct.

Q. Can you give me a rather simplistic answer -- example of that?

A. Sure. If you want to change your over-eating

because you eat too much, we have to try to find some technique to suppress your over-eating, but that by itself will not be enough; therefore we will then try to introduce in its -- instead a behavior that is incompatible with it, meaning it will not be a good thing to make you become a -- to develop a hobby as a cook, because that will not be incompatible with -- with not -- not eating, but say running or exercising, I'm just using these as examples --

Q. Sure.

A. -- because you've asked me for an example, will be considered in that particular case behaviors that are incompatible with -- with over-eating, and therefore that's what you will try to institute, if you succeeded in suppressing the -- the original behavior in the example that I gave you, over-eating let's say.

Q. Okay. And applied to smoking behavior what was the hypothesis that you and your colleagues worked on in terms of the specific examples of what you were going to replace, I take it, the smoking behavior with?

A. It was essentially a similar hypothesis, and this is that if we succeed in suppressing the smoking behavior and while that smoking behavior is

suppressed we will introduce another behavior that is incompatible with smoking then that there was a good -- will be a good chance that people will be able then to either reduce or cut out their -- their smoking.

Q. And did you test this hypothesis on humans?

A. That's correct.

Q. How big was the study group?

A. Oh, I don't remember, but I would guess that the -- the experimental group was -- I would guess was around 15, but -- or 20, but I -- I -- this is just a rough guess. This is something that as you could see was published in -- 22 years ago, and the research was done somewhat earlier than that, so my guess would be that it would be somewhere around that.

Q. Okay. And was there a control group as well?

A. Yes.

Q. Roughly an equal number?

A. Roughly an equal number.

Q. Tried to match the controls of the subjects?

A. That's correct.

Q. And what conclusion did that paper reach?

A. The paper reached that using the -- the experimental paradigm that we have used that results in a significant reduction in smoking. I think that

we -- again, I don't remember now precisely, but I think up to a follow-up period I believe of first 30 days and then I believe 60 days, but again, I am not a hundred percent sure about -- about the -- the length of the follow-up.

Q. Give me the longest period you think the follow-up was?

A. 60 days.

Q. And when those 15 or 20 subjects were followed out to 60 days, there remained at 60 days a significant reduction of smoking?

A. I believe so.

Q. From memory, and I appreciate it's 22 years ago, can you quantify that for me in any way?

A. No. No, I would not be able to do that.

Q. All right. What was your particular role in that study?

A. I was the head of the research team.

Q. How long did the study last?

A. Several months. Again, I don't remember exactly, but several months.

Q. And did anyone go back, either you or your colleagues, a year out or longer, and look at those same patients?

A. No.

Q. So you had no idea what the relapse or return to smoking rate was of the people that you studied?
A. No.
Q. That's true?
A. Oh, no, yeah. Oh, I certainly don't, no.
Q. Okay. In 1975 was the Journal of Consulting and Clinical Psychology a peer-review journal?
A. Oh, yes.
Q. Do you -- you say that the work was prompted by the work of Bernstein?
A. As a -- yeah, as an intellectual tease, --
Q. A catalyst.
A. -- not in terms of following his theories in any way or anything like that, but as best as my memory serves me it was based on one of the -- the members of the team giving a talk in our group meeting talking about Bernstein and then a discussion ensued, and from that discussion we had developed that idea that, you know, of -- of the study that we have done.
Q. With respect to the subjects in that study, 15 or 20 people, how did you go about attempting to suppress the smoking behavior?
A. By having them smoke to the tune of a metronome, taking a puff every time when a metronome -- whether the metronome --

Q. Ticks or tocks?
A. -- ticks, ticks, so it's rapid, it's -- in the literature it would be referred to as rapid smoking.
Q. Okay. And was the replacement behavior that was incompatible with smoking the same for each of the 15 or 20 people?
A. That is correct.
Q. And do you recall what that was?
A. Yes.
Q. What was it?
A. It was a set of exercises called progressive relaxation. It's a set of exercises that have been known, is used now very commonly, and was developed by a man by the name of Jacobson and all the way back to the 30s, and you have to follow a set of instructions that teaches your body how to relax.
Q. After the 1975 paper do you know if your colleagues; Sutherland, Golden and Roseberger, continued on with research, original research with respect to smoking behavior?
A. I'm quite sure that Sutherland did not and I think that Golden did not, but I can't say anything about Roseberger because he left my -- my group some time after that, he got his Master's degree, and he had left the group and I have -- you know, I don't

know, I don't know whether he did or he didn't.
Q. In terms of the opinions that you will express here in this case, will you rely in any respect on this 1975 paper that you've been involved with?
A. Not really.
Q. In any respect?
A. In any respect.
Q. The concept of the smoking to the metronome was a concept that you incorporated into your self-help book; true?
A. That's correct.
Q. And progressive relaxation is also a concept that you incorporated into your self-help book?
A. That's correct. The self-help book, yes.
Q. Were the subjects of the 1975 paper encouraged to engage in satiation smoking as your self-help book suggests?
A. Can you repeat the question?
Q. Sure. You're familiar with the concept satiation smoking?
A. It would require some definition.
Q. Well as you've used it in your book.
A. Oh, okay. Okay, sure.
Q. That's the -- that's where I got it.
A. Okay, sure, that's what I'm saying, if you mean

that kind of, sure.

Q. As you use the term in "Stop Smoking for Good".

A. Now I understand. Now I understand.

Q. Did you have the subjects in the 1975 study engage in satiation -- I can't even say it -- satiation smoking as you used that term in the 76 book?

A. Roughly speaking, yes.

Q. So in addition to the metronome puffing you had these people do satiation smoking?

A. Yes.

Q. Did you have them complete the sort of forms for each phase?

A. No.

Q. All right.

A. No, because that was a study and this is a self-help book. No.

Q. Did you have them mark the numbers on the cigarettes that they smoked?

A. No.

Q. Or put a mark on the cigarette as to how far they should smoke it?

A. Huh-huh, no.

Q. In or about 1975 or 1976 were you affiliated at that time with Sir George Williams University?

A. Yes.
Q. As well as Concordia?
A. Concordia and Sir George Williams University are the same.
Q. All right.
A. It started as Sir George Williams University and then at some point in the 70s Sir George Williams University and Loyola College of Montreal -- or Loyola University of Montreal, sorry, amalgamated to form Concordia University.
Q. Without regard to the name of the institution, it was the same?
A. The same institution, yeah.
Q. All right. And did Concordia, if we can use that name for it, --
A. Sure.
Q. -- in the period 75 or 76 or thereabouts have as part of its medical program a smoking cessation program?
A. I don't believe so.
Q. Have you yourself ever participated in any smoking cessation program, not as a patient, but as a professional?
A. Yes.
Q. Okay. And when did you do that?

A. Sometime after the publication of this book, so either -- I would -- I would guess, I don't remember exactly, sometime in the late 70s.

Q. And was that The New Clinic?

A. That is correct.

Q. Okay. And what institution was The New Clinic affiliated with, if any?

A. The New Clinic at that time was a teaching clinic for Concordia University graduate students in psychology, it no longer is at this point, but at that point it was an official teaching clinic for -- for Concordia.

Q. And it had a smoking cessation program?

A. That's correct.

Q. When was it started?

A. I don't remember.

Q. And how long was it, Dr. Amit, that you were affiliated with New Clinic?

A. I am still affiliated with New Clinic.

Q. So from sometime in 19 --

A. I started in 1972 and I've been affiliated with it ever since.

Q. And specifically with respect to the smoking cessation program of The New Clinic, how long were you associated with it?

A. With that program?
Q. Yes, sir.
A. It didn't last very long. Maybe -- maybe a year.
Q. And was that a year in the decade of the 70s?
A. Yes. I would say even in the -- in the late 70s.
Q. And when you first became affiliated with The New Clinic, was it as a result of "Stop Smoking for Good", the book?
A. No, no, as I mentioned to you before I started The New Clinic in 72. This book on --
Q. No. I'm sorry. Go ahead.
A. So I've started to -- to be affiliated with The New Clinic four years prior to the publication of this book.
Q. I meant to ask about the smoking cessation program of The New Clinic.
A. Yes.
Q. Did your affiliation with the program occur as a result of the book?
A. Yes.
Q. And when the book was published in 1976 do you know how many copies were sold?
A. No.

Q. Any idea?
A. No. I can only say I didn't get rich off of it. I -- I don't remember. It was not a -- a best seller. I mean it did not sell in -- in huge amounts, but I can't really be more specific than that.
Q. You wrote another self-help book as well?
A. Yes, I wrote another two self-help books.
Q. Ahh. I knew of one. What were the two subjects?
A. One was related to -- to eating, and the other one related to phobias.
Q. Were the concepts employed in the eating and phobia books essentially the same as the concepts employed in the smoking book?
A. Not exactly. The concepts in the eating book were the same, essentially the same conditioning concepts as in the smoking. The phobia book was based on -- on a different concept.
Q. And tell me how it was that you came to be affiliated with the smoking cessation program of The New Clinic. Did they ask you? Did you ask them?
A. I was the co-director of that -- of that clinic, so I had some decision-making powers in that The New Clinic is not a huge operation, but it was primarily

as a result of the -- the paper that was published in clinical and consulting -- Journal of Clinical and Consulting Psychology, and then after that the book, the word in the Montreal kind of psychological community passed around that we are doing some work with regards to smoking and other people started to refer people to us first individually who sought help for smoking cessation, and then I don't remember who proposed it, but we decided to try to run groups for -- for smoking cessation, and that is what I'm referring to when I talk about the smoking cessation program. It was several groups that we -- that we ran, and I can't say whether -- I -- I don't think that the idea came from me, but I can't -- I can't -- I can't remember now who actually proposed it.

Q. So I take it that you were one of the originators, if not the founder, of the smoking cessation program at The New Clinic?

A. I would say one of the originators would be more correct.

Q. You wouldn't want to be referred to as the father of the cessation program?

A. No, I'd -- I'd rather not.

MR. SILBERFELD: Okay. Let's take a break.

(Recess from 11:12 to 11:18 a.m.)

BY MR. SILBERFELD:

Q. Doctor, let's press on. We were at the stage of talking about your involvement with really beginning the smoking cessation program at The New Clinic and the self-help book. My question at this point is which came first, your involvement with the book and the publication of it, or the beginning of the groups and the program at The New Clinic for smoking cessation?

A. I believe that the book came first. I don't -- certainly not -- the group certainly came after. It could be that -- that we have treated some individuals or worked with some individuals who asked for help in smoking cessation prior to that, but I can't recall that, but certainly what I can recall with some confidence is that the -- those groups that -- that we worked with were after the publication of the book.

Q. And what do you mean when you say "the groups"? What does that refer to?

A. The groups of individuals that came and worked together instead of one-to-one with a therapist, groups of anywhere from 5 to 10 individuals that met on regular in -- you know, regular intervals with one

or two psychologists from The New Clinic to implement essentially the -- the program.

Q. So am I right that the running of groups in the mid to late 70s was new for The New Clinic?

A. Yes, that's correct.

Q. But that The New Clinic had in fact provided smoking cessation services on an individual basis before that time, or not?

A. I can't tell you for sure, no. That's -- that's very possible, but I can't -- I can't absolutely confirm whether we had actually individuals that we did that prior to the book, but it's very possible, and in which case it would be on an individual basis, not on a group basis.

Q. Okay. And the methodology that was used to treat people who wished to quit smoking before the groups came along, was it the same as the methodology used with the smoking groups?

A. The methodology that we used since the publication of the article in the Journal of Clinical and Consulting Psychology was always the same, in -- in individuals that -- if there were, and I don't recall so I wouldn't want to testify what we did, because I don't recall a specific instance of an individual prior to the publication of the article in

the journal.

Q. Was the article in the journal that was based on the study that you and your colleagues did the first example of a group that was run through The New Clinic program or did the group start thereafter?

A. No, no, the group started after. The study was really done -- it was an academic study done within the context of Concordia University as an academic study. We have used it afterwards as a concept to work with the -- to write the book and to work with -- with several groups.

Q. Who is Andrew Weiner, W-e-i-n-e-r?

A. He's a professional writer that helped us with poor English.

Q. As of the publication of the book in 1976 -- I note that it was published both in Canada and the United States in the same year, right?

A. That's correct.

Q. As of 1976 how many people had gone through either an individual or a group smoking cessation program at The New Clinic?

A. I can only estimate -- estimate.

Q. All right. Please do.

A. I doubt it will be more than 50, 60.

Q. 50 to 60 total individuals?

A. I think so.
Q. Of those, again prior to the publication of the book, how many were successful in stopping smoking?
A. Prior to the publication of the book?
Q. Yes.
A. The groups as I -- I think I mentioned were run after the publication of the book.
Q. I didn't mean to limit my question to the groups. I meant people, whether they were individually treated or in groups. Prior to 1976 how many people had gone through the smoking cessation program of The New Clinic?
A. Prior to the publication of the book?
Q. Prior to 1976 when the book was published, yes.
A. I don't know.
Q. Is --
A. I don't know.
Q. Is 50 to 60 wrong because you misunderstood my question?
A. Yeah, I misunderstood your question.
Q. All right. Do you think it's more or less than that?
A. Less than. Much less than that, but I can't offer a number.
Q. And of those that went through the program

either individually or -- it must have been individually because there were no groups.

A. That's correct.

Q. Of those that went through the program individually before the publication of the book in 1976, how many were successful, "successful" being defined as quitting smoking?

A. Oh, I can't give you a number, but I can tell you it was a small number.

Q. Percentage-wise, can you express it that way?

A. 20 percent. But it's really a rough guess.

Q. Okay.

A. I will not defend this number.

Q. That's all right. I understand it's an estimate. Did The New Clinic prior to the publication of the book and prior to the emergence of group treatment have a protocol, a follow-up of the patients that went through the smoking cessation program?

A. Not really.

Q. After the publication of the book and after the groups began did you have a protocol at The New Clinic for the follow-up of patients who went through the smoking cessation program?

A. Yes, in a manner of speaking. In other words,

it was not a formal -- formalized thing with forms and things like that, but there was a procedure that we kind of followed, yes.

Q. What was the procedure?

A. That the -- we continued with meetings of -- of the individuals. We tried to continue to have at least weekly meetings for a period of three months. From the beginning, from the very beginning of the convening of the -- of a given group we tried to have weekly meetings. I might tell you that it as time went by became more and more difficult because of attrition; in other words, people kind of either did not feel that they are making headway or did not feel that they need our services any more and they stopped coming. They -- this was a, quote-unquote, "commercial exercise"; in other words, these people had to pay for these -- for these services and therefore we started to get some attrition towards the end, so I can't tell you how many -- in the few groups that we ran how many actually were there to the "bitter end," quote-unquote, meaning the end of the three month's period, but -- but we did -- I'm quite clear about the fact that we did lose some people as we were heading towards -- towards that period.

Q. What's your best estimate of the total number of people that were run through the groups of the smoking cessation program at The New Clinic?

A. My best, that's -- okay, now I come back to the question -- the answer that I give you before. My best estimate is about 50, 60 people.

Q. All right. And it was a three-month program?

A. A three-month program, yes.

Q. And was the active part of the program a -- a 7-week program as the book talked about?

A. That's correct.

Q. All right. So is the program that was done with the -- with the groups exactly the program that is described in the book?

A. Roughly speaking.

Q. All right. There might have been minor modify --

A. The mere fact that they came once a week, that's not included in the book. I mean they came to the actual clinic for a meeting, a weekly meeting, and got together with anywhere, as I said, between 5 and 10 other people; that's not part of the -- part of the book, but that's something that we have done for the -- for these groups. That already marks a difference in terms of this, but roughly speaking we

followed the pattern of -- of the book.
Q. All right. And in terms of how the three months of the program was divided up, would it be fair to characterize it as roughly 7 or 8 weeks of an active program and the balance was the follow-up?
A. To the best that my memory serves me I think that the active program was shorter than that, maybe six weeks, and then the rest was kind of a weekly follow-up.
Q. Okay.
A. But that's to the best that my memory serves me.
MR. PETERSONS: Sorry about that.
Q. And the follow-up -- well let me withdraw that.
As to the active part of the program we don't need to spend a lot of time talking about it, it's fundamentally the same as it's described in the book?
A. Uh-huh.
Q. Yes?
A. Yes.
Q. The marking of the smoking material, right?
A. (Witness nods head.)
Q. The metronome smoking --
COURT REPORTER: Your answer?
A. I'm sorry. Yes.

Q. The metronome puffing?
A. Yes.
Q. Cessation techniques?
A. Yes.
Q. Relaxation techniques?
A. Yes.
Q. Avoidance of situations where one might be encouraged or --
A. Yes.
Q. -- tempted to smoke?
A. Yes.
Q. And then the follow-up aspect of the program was a protocol in a manner of speaking, to use your words, that involved roughly six weeks of follow-up; that would be a total of three months then?
A. Yeah, roughly speaking.
Q. And how was follow-up done?
A. First of all we -- as I said, we tried to maintain the weekly meetings, so the people were -- if they lived up to their contractual agreement they came for once a week to a meeting, and during this meeting we debriefed them and asked them to -- to tell us what -- basically what's going on, looked at their forms, and those people that did not show up, our secretary would then call them once to see

whether that was because of just technical inability to come to that specific meeting or because they wanted to -- to quit.

Q. So the weekly meetings were conducted for the active phase of the treatment as well as --

A. As well as, oh, yeah sure.

Q. -- the follow-up?

A. Sure.

Q. And tell me the results that you and your colleagues obtained as to the 50 or 60 patients that were run through these group programs?

A. Again, I'm trying to rely on my memory. There were two things that became quite clear, and this is at the end of the active phase, say around 6 weeks, there were some people that quit completely; in other words, that at that point were not smoking any more, but I would say that a larger number, and again I -- I will not be comfortable in stating numbers, actually just reduced their smoking substantially but were still smoking small numbers of cigarettes. Fairly quickly after the end of the active phase of the treatment we started to see -- to the best of our debriefing started to see a rise in the -- in the level of smoking. I can't tell you what was the -- exactly in the groups what was exactly the level of

smoking at the end of the three months' contractual, you know, like meetings, you know, but -- so my recollection, once again, is that there was some still reduction in the level of smoking that these people were doing but it was not impressive; in other words, the rise from the 6 weeks mark to the 12 week mark, in other words, from the end of the -- the active phase was quite easily observable, in other words, it was quite -- quite substantial.

Q. That was a very long answer and I appreciate it. Let me try to take some parts of it --

A. Sure.

Q. -- and ask you some questions about it.

Within the first 6 weeks of the active treatment phase some of the 50 or 60 individuals actually stopped smoking.

A. Correct.

Q. Some others reduced the amount that they were smoking from what they had previously done.

A. That is correct.

Q. Looking at just those two groups, Dr. Amit, did more of the 50 or 60 stop or did more of the 50 or 60 reduce their smoking within the first 6 weeks?

A. More of the 50 reduced their smoking within the first 6 weeks.

Q. By how much?

MR. NIMS: By how much was the reduction?

MR. SILBERFELD: Yes.

MR. NIMS: Or --

Q. By how much did they reduce their smoking percentage-wise?

A. Anywhere between 70 and 80 percent. I shouldn't -- I mean I'm kind of tempted to always say roughly, so you know, as long as it's understood that we're talking about rough figures.

Q. And in this second 6-week part of the program or follow-up there was an increase in smoking --

A. That is correct.

Q. -- in both groups?

A. Yes.

Q. Those that had quit in the first 6 weeks picked up smoking again?

A. Some. Okay. Here I should qualify that of the people that quit completely there were some small number that never returned to it.

Q. Within the three months?

A. Oh, yeah, sure, sure. I don't know, we did not maintain any contact with these people after the three months, so at least to the best of my knowledge within the confines of the three months there were

some that did not return to smoking, but there were some that quit completely that returned to smoking during that period.

Q. And those that had stopped in the first 6 weeks and returned to it in the follow-up period, --

A. Yes.

Q. -- did they go back to their prior level of smoking or did they increase the amount of their smoking?

A. I understand your question and I can't answer it. I simply don't remember. I -- I want to say that there was still somewhat reduced, but I just want to say it, I mean I don't really have any direct memory that -- of that.

Q. All right. And then as to group that in the first 6 weeks had reduced their smoking but not eliminated it, --

A. Yes.

Q. -- did some of those people in the second 6 weeks also increase the amount that they were smoking?

A. I would say that most of the people that did not quit completely but reduced, not all of them, but most of them have increased during that period of time.

Q. And was that increase in the follow-up period an increase over what they had been smoking before the program started?

A. No.

Q. So they were still below --

A. Somewhat below.

Q. -- their prior habit?

A. Yeah, I don't know of it would stand a statistical analysis, but yeah, somewhat below.

Q. And then after the three-month period you and your colleagues maintained no contact whatsoever with these --

A. That is --

Q. -- 50 or 60 people?

A. That is correct.

Q. And was that the only experience in terms of a smoking cessation program that you had, directly?

A. Yes.

Q. And did -- is it Mr. or Ms. Sutherland?

A. Ms.

Q. Ms. Did Ms. Sutherland work with you in the smoking cessation groups?

A. Yes.

Q. And after the groups were run what happened to the program?

A. We came to the conclusion, I mean the staff, the people that are working in the clinic and who met -- we usually met and still do, every two weeks we have rounds or staff meeting, and we came to the conclusion that this procedure that was developed as a result of the paper and then written in the book is not an effective procedure for smoking cessation, despite its initial promise as depicted in the article and in the book. We had to come, quite sadly, to the conclusion that it was not an effective program.

Q. So would you regard the program as having been a failure, regrettably?

A. Yes.

Q. Did you ever study or analyze in any way why the program was a failure?

A. Not really. Not really.

Q. You just went on to other research interests?

A. Yes, yes, and in the clinic since we stopped doing it, stopped doing the groups, I didn't have any avenue in -- I mean with the exception of again some individuals that continued to come to us and to come to me or to other of my colleagues at the clinic and ask for help in smoking cessation.

Q. So were there people other than you and Dr.

Sutherland attempting to help people quit smoking other than in the context of these groups and the individuals who were coming for care?

A. No.

Q. Maybe I misunderstood your answer.

A. No.

Q. Let me see if I understand what was happening at The New Clinic in the mid to late 1970s.

A. Okay.

Q. Individuals were either referred or self-referred for smoking cessation help?

A. Uh-huh.

Q. Yes?

A. Yes.

Q. And prior to the publication of the book there were substantially less than 20, 50 to 60 people I think you said, substantially less that came for that sort of help?

A. That's correct.

Q. In the course of the groups that you and Dr. Sutherland ran there were about 50 or 60 people that rotated through that program?

A. That's correct.

Q. At the time that the groups were going on were there also individuals being referred or

self-referred that were getting care from other professionals at The New Clinic?

A. No. During the period when the groups were run we were trying to encourage these people not to get individual help but to be members of the group, and to my recollection most of them agreed. In the group itself Dr. Sutherland and I were the -- the key figures in running the group, but we had other people helping us, and these were -- some of them were graduate students that were --

Q. Sure.

A. -- you know, doing their internships as part of their -- their teaching requirements, and other colleagues, so I would -- so there were other people involved in these groups and working with these -- you know, with these groups.

Q. I appreciate that you had help from other professionals. I was just trying to get a feel for how many total patients there were that came through either the individual program or the group program at The New Clinic during all of the time of your involvement.

A. In The New Clinic?

Q. Yes.

MR. NIMS: So now we're talking up until

today?

Q. No, up until you left the smoking cessation part of the program in the -- after about a year.

A. Yeah, but as I said, there wasn't -- you know, once we finished with the groups, with the smoking cessation groups or program as you want, there was still after that a trickle of individuals who would come and say, quote-unquote, "Doctor, help me; I want to quit smoking and I want you to help," I can't give you the number, they were not large numbers, but there were people after the cessation of the groups that came and asked for some help.

Q. We've established that the groups were roughly 50 to 60 individuals.

A. That's right.

Q. Maybe there was another 25 people that came before the groups were established?

A. Probably less, but maximum that.

Q. Is it fair to say that there were no more than a hundred people who ever came for smoking cessation help after the groups, in the groups, and before the groups?

A. It is fair to say that, yes.

Q. And if we use that number of a hundred, do you have any estimate for us based on the three-month

follow-up of the number of people that actually quit smoking?

A. No. Except to say that it was a small number.

Q. Would it be a single digit percentage number, less than 10 percent, in other words?

A. I would be more comfortable with 10, 15, percent, but again it's a rough estimate.

Q. And I think you said that you never did any sort of postmortem on the program to determine why it was a failure. Do you have an impression as to why it was that it was difficult for people to stop smoking as a part of either the group program or the individual program?

A. I have an impression, yes.

Q. And what is that, sir?

A. My impression is that the technique is really not all that important. Okay. What you use as a technique is really not all that important. What is important is really the decision of the person to quit smoking. The -- the strength of that decision and the commitment that the individual has or have to that -- to that decision, and that the help that a person gets from the -- from the smoking cessation program, at least of the kind that we ran, only helps the individual, you know, in the short-term,

temporary, short-term.

Q. The commitment to quit and the strength of decision to quit --

A. That's correct.

Q. -- are what's required?

A. That's correct.

Q. Technique is not important?

A. That is correct.

Q. And that -- those three ideas of yours I take it are based upon the experience you had with smokers in the 70s?

A. And -- yes, and review of the literature.

Q. Okay. Going back to the number of a hundred, and I appreciate that it probably isn't as high as a hundred, but it's a nice, round number, --

A. Yeah.

Q. -- if 10 people, 10 percent were successful in quitting, would it be true that those would be the only 10 people that were ever successful in quitting smoking on the basis of the methods and the programs that you and your colleagues employed at The New Clinic in the period of time we're talking about?

MR. NIMS: Objection.

Q. Do you understand my question?

A. I understand your question.

Q. What's the answer to it?
A. If we exclude people that read the book and decided then to follow the book and we had no contact with them, they just read it, just if you're saying in the context of The New Clinic, --
Q. Yes.
A. -- I think that would be a fair -- a fair statement.
Q. A true statement?
A. Yes.
Q. People may have gotten the book, bought the book, done quite well with it, you don't know?
A. That's right.
Q. They never wrote to thank you?
A. No.
Q. And you've never followed in any way, have you, the population of people that may have purchased the book and either done well with it or failed with it?
A. No.
Q. When the book was written, tell me the process of the writing of the book. You and Dr. Sutherland worked together with this professional book writer.
A. No. The process was that we would sit -- Dr. Sutherland and I would sit and write a portion of the -- of the text in a draft form and then meet with

Andrew Weiner and give him the -- the -- the section that we have written, and he would then rewrite it and then meet with us and show us what changes he made to make sure that the -- the actual professional aspect of it has not been changed, and then we will go, continue to work on the next section of the book.

Q. So you and Dr. Sutherland provided the technical side of the book; --

A. That's right.

Q. -- right? Mr. Weiner would write it in readable, lay fashion?

A. That's correct.

Q. You and Dr. Sutherland would review what Weiner wrote to make sure of accuracy and truthfulness and so forth?

A. That is correct.

Q. And then that was the process, chapter by chapter, that you worked through to the end?

A. That is correct.

Q. Okay. With respect to the approximately hundred people that you saw in the course of the programs, both individual and in group, at The New Clinic, we talked about how many quit and how many continued to smoke, was the program effective for some number of those people?

A. Can you ask the question again?
Q. Sure. Did you regard at the end of the program at The New Clinic for smoking cessation that the methods that were described in the book had been effective in either helping them stop or helping them reduce smoking in some number of those patients? Not quitters now completely, but quitters and people who reduced their smoking?
A. No, I -- I still concluded that -- that the method was not effective.
Q. Okay. And when did you come to that conclusion?
A. Towards the end of the -- this program of the various groups that we ran. It was clear after probably the -- the second group and when we started to look at what was happening with, you know, several of these groups towards the end of their -- their three month's period it became clear to us that this is not going to be a -- a method that is going to bring cessation, smoking cessation to large numbers of people.
Q. How long had Dr. Sutherland been involved in the development of techniques or methodologies for smoking cessation, as of the writing of the book in 1976 let's say?
A. Probably as long as I did.

Q. A couple of years?
A. Yeah.
Q. Two years?
A. Prior to the writing of the book you mean?
Q. Yes, sir.
A. Yeah, roughly.
Q. The journal article was 1975?
A. Five.
Q. The book was 1976?
A. Six. And the work on the journal article was done in 74, yeah, so two, three years.
Q. When you reviewed the book, the galleys, if you will, from Weiner when he put it into lay language, did you review just the text of the book or every aspect of it?
A. I don't remember. I would like to believe that I reviewed every aspect of it, but I can't -- I can't testify to that.
Q. Including the cover?
A. Including the cover. Yes.
Q. We've been furnished a copy of the book by your counsel.
A. Uh-huh.
Q. And the first page of what we've been furnished looks like sort of a paper cover that goes on the

outside of the book.

A. Uh-huh.

Q. Do you recall that, that it had such a thing?

MR. McDONNELL: You mean a dust jacket, counsel?

Q. Very good, a dust jacket.

A. Yes.

Q. Did it have a dust jacket?

A. Yes.

Q. And is what I'm showing you here, the first page, the dust jacket to the book?

A. I -- I believe so.

Q. Okay. And the way it's been xeroxed the right-hand side of the book would be the front cover?

A. Uh-huh.

Q. The middle of the page would be the spine, right?

A. Uh-huh.

Q. Do you agree with all that?

A. Uh-huh.

Q. And the left-hand side of the page would be the back cover. Do you recall that?

A. I believe so, yes.

Q. Does this appear to be a true and accurate copy of the cover, the dust jacket of the book?

(Witness reviewing document.)

A. Yeah. Yeah -- I think that that's the -- the cover, yeah.

Q. Do you see the statement that I've highlighted at the bottom?

A. Oh, yes, sure.

Q. Is that a true statement?

A. No.

Q. The statement is: "At the New Clinic for Behavioral Therapy in Montreal, the program that is presented in "Stop Smoking for Good" has proven effective with over 300 men and women, many of them heavy smokers for over 20 years."

A. Uh-huh.

Q. Is that -- did I read that correctly?

A. Oh yes, yes.

Q. Did you write that statement?

A. No.

Q. Who did?

A. The editor of the publishing company wrote that statement.

Q. Did you read that statement before it was --

A. Yes.

Q. -- incorporated into the book?

A. Yes.

Q. And did you know it was a false statement at the time?
A. Yes.
Q. When you -- or withdraw that.
Knowing the statement to have been false, did you nevertheless permit the statement to remain on the dust jacket of the book?
A. I obviously did.
Q. And did you intend for people who picked the book up, considering buying it, to rely on the statements made not only in the book but on the dust jacket as well?
A. I didn't intend for them to rely, but I have to con -- you know, con -- concede to the fact that they may have relied on this, and I want to make it clear that the statement is correct with the exception of the number. I -- except -- except the 300, the number 300 which was not correct, everything else is -- is correct.
Q. Well the number is far less than 10, isn't it?
A. No, that includes already -- in this book that includes already the -- the group of people that -- that were used in the study and following that the number of individuals that were referred to us. I have mentioned to you before that right after the

publication of the article we started to get referrals, so the number is much smaller than 300, that is quite correct.

Q. The total number of patients that you saw, regardless of whether they were successful, was about a hundred?

A. That is correct.

Q. The total number for whom the program was effective was far less than a hundred?

A. That is correct.

Q. How long was the book on the market?

A. Would you --

Q. Available for purchase.

A. I have no idea. I mean I don't know how long they kept it on the -- on the shelves or anything like that.

Q. Have you seen any information at all to indicate how many copies were actually sold?

A. We had that information. We used to get a statement from the publisher every 6 months, but I can't tell you how much it was.

Q. Was it in the hundreds of copies, thousands of copies, tens of thousands?

A. I don't believe it was in the tens of thousands of copies, but I can't tell you whether it was in the

hundreds or the thousands, but it could be, it could be in the thousands, it could be in the hundreds. It certainly was not in the tens of thousands.

Q. Could have been in the thousands?

A. It could be. I -- I'm not sure.

Q. And what was your purpose in writing the book?

A. After the publication, after the conclusion of the study that was published in the Journal of Clinical and Consulting Psychology, I believed that we had developed an effective technique to help people either reduce or quit smoking, and I thought that the data and the knowledge that we accumulated as a result of that study could be transmitted to people in the form of a self-help group -- self-help book that will help people using the technique that we've used on their own to try to either reduce or quit smoking.

Q. I take it you wrote the book because you thought there was a market for it with people who wanted desperately or otherwise to stop smoking?

A. I thought that there may be a market for it. Whether it was desperate or not, I'm not in a position to answer.

Q. You thought it would assist people in stopping smoking?

A. That is correct.
Q. And you thought that your market of people for the book was about a million people in the United States and Canada who every year try to give up smoking?
A. That is correct.
Q. Was the program at the time it was incorporated into the book the end product of years of rigorous research in the field of experimental psychology?
A. Yes.
Q. You say in the introduction to the book that the facts about the health hazards of smoking cigarettes are now well established, well publicized, and familiar to almost everyone, as of 1976.
A. Uh-huh.
Q. What were the health hazards you were speaking of?
A. I was speaking of reports that cigarette smoking may cause respiratory problems and possibly interference in motor activity and in athletic performance, and may be related therefore to interference in -- in the functioning of the respiratory system.
MR. SILBERFELD: Could you read back the answer.

(The record was read by the reporter.)
Q. Were those all the health hazards that you were speaking of as of 1976?
A. I can't recall that. I --
Q. Did you at some time, Dr. Amit, come to believe that cigarette smoking is a substantial factor in the development of lung cancer?
MR. NIMS: Objection.
Q. Go ahead.
A. I am not going to answer. That's not in my area of expertise and I'm not going to answer. The question requires expertise that I don't have.
Q. You follow the medical literature; do you not?
A. The medical literature, no, not -- not -- strenuously not.
Q. Do you subscribe or read any medical journal?
A. No. Again depends what you define as a medical journal.
Q. Well you made a distinction for me earlier about the psychopharmacological literature.
A. That's correct.
Q. That is medical in nature; is it not?
A. Not necessarily.
Q. So you don't know the answer to the question of whether or not smoking is associated with the

development of lung cancer?

A. I can repeat what I said. I think that the answer to your question falls outside my area of expertise, and I will not be -- I will not feel comfortable in -- in answering it.

Q. How about a personal opinion?

A. Yeah, I -- I can give you a personal opinion.

Q. Please.

A. But it is then I am speaking as Mr. Citizen and not as an expert.

Q. That's fine. What is your --

A. I -- I think that there may be a relationship between smoking and lung cancer. I don't know if it's a causal relationship, I don't know whether it's a correlational relationship, and I don't know how substantial that involvement is, but there -- I believe that there is a -- a relationship between smoking and the development of -- of lung cancer in some individuals.

Q. Have you ever studied epidemiology?

A. No.

Q. Are you familiar with the term "relative risk"?

A. I'm familiar with the term "relative risk". Again depends -- I mean relative risk is something that is defined in many -- in many fields somewhat

differently, but -- so I -- I don't know what you're referring to, but I'm familiar with my understanding of the term "relative risk".

Q. Do you believe that the relationship between smoking and lung cancer has been firmly established?

A. Once again, if you're asking me as an expert, I don't have the wherewithal and the expertise to answer that question.

Q. In the world of medical and scientific literature has the connection between smoking and lung cancer been firmly established?

A. Would you spec -- you know, specify what you mean by "firmly".

Q. Well, do you have an understanding of what that term means?

A. No.

Q. Okay. That hasn't --

A. Not the way you --

Q. Is --

A. I don't know.

Q. Sure.

A. You're not specifying.

Q. I'll try to do better.

Based upon your understanding of the world scientific and medical literature, do you believe

that there is serious doubt as to whether or not smoking is associated with the development of lung cancer in men and women?

MR. NIMS: Objection.

MR. GINDER: Second that objection, relevance, foundation grounds, and certainly beyond the scope of the expert report or what he's indicated in the report that he's going to testify about.

Q. Go ahead.

A. Would you repeat the question, please?

Q. Sure.

Would you read it back.

(The record was read by the reporter.)

A. By the nature of the question you're asking me the question as an expert because you're asking me for an opinion about the professional literature and that is not literature that I am following and I am not -- I can't -- I don't feel that I can answer that.

Q. In your book you indicate that in reference to the 1964 Surgeon General's report that the report indicates that chronic smokers are 11 times more likely to contract lung cancer than nonsmokers. Did you believe that to be a true statement at the time?

A. I believed that that was what's in the Surgeon

General's report.

Q. Did you believe it was a true statement?

A. I had no reason to question the Surgeon General then. I have since then modified some of my views, but at that time I believed that that was a true statement, yes.

Q. How have you modified your views since 1964 about the Surgeon General?

A. I have some disagreements with his later report in 1988 with regards to addiction, so -- and so I -- since I think he came to conclusions that I find peculiar, I developed some reservations about the credibility of everything that the Surgeon General said, I mean -- well definitely not everything that the Surgeon General says is -- I came to the conclusion is really well based.

Q. So if there was no basis for a statement made by the Surgeon General regarding nicotine addiction in 1988, you would think it reasonable to distrust or disregard everything the Surgeon General had to say; is that right?

A. That's not --

MR. NIMS: Objection, it mischaracterizes.

A. That's not what I said. You kind of misrepresented what I said. I said at the time I had

no reason to question the -- the voracity of that, and to the best of my knowledge at the time that was -- that was true. I said I have changed some of my views or some of the -- the aura of the Surgeon General has been diminished in my personal eyes, but that's not to say that that is a statement about the truth or falsity of that statement in 1964.

Q. Well what does it say about the statement made in the 64 report, the fact that you disagree I take it strongly with the 88 report, what does it say about the prior report?

A. Nothing.

Q. Does it cause you to question the prior report and its voracity at all?

A. Sure. Sure. I mean but I don't have any evidence that there is any basis to question it. It's just that later on in retrospect I have to say that since I don't agree with some conclusions that I've seen in the later report that there is at least a possibility, at least a possibility that some of the statements that were made then were not correct either.

Q. And you regard that as a reasonable approach to the prior report; that is, by reason of disagreeing with the 88 report that calls into question in your

mind the truthfulness or the voracity of the prior report?
A. I have --
Q. It may still be true, but you might question it?
MR. NIMS: Objection.
A. I have no -- I said -- sorry.
Q. Go ahead.
A. I said before, I don't have any tools to evaluate that report. I said quite clearly, I think, that I -- I did not question it at the time and used at least one bit of -- of the information. I just added that I have some -- I will not take the later statements that -- that were made by the Surgeon General as unconditionally as I did at the time.
MR. SILBERFELD: This is probably a good time to take a break. Let's break for lunch.
(Luncheon recess from 12:07 to 12:56 p.m.)

A F T E R N O O N   S E S S I O N

BY MR. SILBERFELD:
Q. Dr. Amit, we were talking before the lunch break about the health effects of smoking. Do you recall that --
A. Yes.
Q. -- area? Is part of the reason that you do not have a professional opinion about this the fact that

the health effects concern physiology?
A. I'm not -- I'm not sure what you mean by "the reason" is because it is concerning physiology.
Q. Well is it fair to say that your background is in psychology?
A. In psychopharmacology, yes. Not --
Q. And not physiology?
A. Not physiology, although I have written -- I published a paper in the physiological journal, but that's an exception of the rule, yes.
Q. So is it at least in part true that your difficulty in expressing opinions about smoking causation and disease relates to the fact that it involves physiology, physical medicine, or medicine?
A. Yeah, and various other areas that are not my area of expertise, yes.
Q. What other areas that are not your area of -- of expertise?
A. Epidemiology you've talked about, it's not my area of expertise. Respirology is not my area of expertise. Cancer research is not my area of expertise. You've raised a question about that. These are not areas where I feel comfortable stating opinions.
Q. Does that include whether drugs or substances

can have physiological effects; --

A. (Witness shakes head.)

Q. -- would you defer to others on that?

A. No.

Q. That is your area.

A. Again, within limits. I'm sure that there are some drug effects on -- on -- on the -- on physiological systems that I will not feel comfortable with, but there are many areas in which I do feel comfortable quote -- commenting on.

Q. In this book, which I should probably mark as Plaintiffs' next in order.

COURT REPORTER: 658.

MR. SILBERFELD: And we'll have to make a copy at a break. This is my only copy of it.

(Plaintiffs' Exhibit 658 was referred to but marked at a later point in the deposition.)

Q. On page 3 I read you the statement that you wrote about smokers being 11 times more likely to contract lung cancer than nonsmokers. The paragraph goes on. "They," meaning chronic smokers, "are twice as likely to suffer from coronary heart disease." Did you believe that to be true?

A. I would like, first of all, to see that. I mean I don't have a copy of the book.

Q. Well maybe counsel has a copy; --
A. I gave --
Q. -- he provided it to me.
A. Okay.
MR. NIMS: I think I have.
Q. Well you're welcome to look at the paragraph I just read.
A. Okay.
MR. NIMS: I intended to bring one and it didn't get stuck in the briefcase. I apologize.
A. The only copy I have. I have to borrow this one.
Q. I read you the first two sentences of that paragraph.
A. Yes, that's correct.
Q. Did I read it correctly?
A. Yes, you read it correctly.
Q. Okay. In light of having now seen it for yourself, are both statements true as of the time you wrote them in 1976? Did you believe them to be true?
A. I believed at that point that they were true, yes.
Q. And has your belief about lung cancer changed since 1976?
A. I can't -- I can't comment on that. I don't --

I mean did my belief about lung cancer --

Q. And smoking change since 1976 when you wrote this?

A. I'm not sure.

Q. It may have, it may not have, you just don't know?

A. I don't specifically -- we have stated -- I've answered your question vis-a-vis the statement that we put in the book attributed directly to a report by the Surgeon General.

Q. Yes.

A. Whether my views about it have changed over these years, I -- I -- my own views as -- as an individual, not as an expert, I can't -- I can't answer that, I don't -- I don't remember what exactly were my views other than quoting the -- the Surgeon General.

Q. Well, have you seen any scientific paper, publication, or public statement of a health organization that is inconsistent with the statement in your book made in 1976 about smoking and lung cancer?

A. I don't recall having seen any.

Q. Okay. With respect to the statement about coronary heart disease as occurring twice as often in

chronic smokers than in nonsmokers, was that a true statement in 1976?

A. It's the same as my -- my answer to the previous statement. At that time I believed on the basis of what I've read in the -- this that that is a true statement.

Q. Your book goes on to say later on the same page, "The frequency of lung cancer and coronary disease increases in direct proportion to the number of cigarettes smoked." Do you recall that statement?

A. I'd like to see it. You highlighted. This is the one that --

Q. Yes.

A. Okay. Let me --

(Witness reviewing document.)

A. Yes.

Q. Have I read it correctly?

A. You have read it correctly.

Q. Is it a true statement?

A. Once again I believed at the time on the basis of the report of the Surgeon General that that was true.

Q. In 1976 did you believe that lung cancer, heart disease and respiratory problems were clear-cut dangers of smoking?

A. What do you mean by "clear-cut"?
Q. What did you mean when you wrote that on page 4? Notice the circled areas, sir.
A. Uh-huh.
(Witness reviewing document.)
A. Yeah, obviously I believed that there was a clear-cut, long-term danger at that time.
Q. And what --
A. At the time that I wrote the book.
Q. I didn't mean to interrupt the end of your answer.
A. That's all right.
Q. And what did you mean by clear-cut as you used it in that statement?
A. I don't remember now what I meant at that time there, but clearly it is to indicate that there was a -- a clear-cut, long-term danger of smoking.
Q. About which there was no doubt or controversy?
A. I didn't say that. I said just clear-cut.
Q. Well that's what clear-cut means, isn't it?
A. No, there are many clear-cut things that later on develop controversy about them.
Q. I'm talking about at the time.
A. At the time I believed that that's -- that that was -- yeah, that that was a true -- a true

statement, yeah.
Q. About which there was no doubt or controversy then?
A. As a scientist I believe that there are many things that, you know -- there are very few things that don't have any doubt about them, so I don't know why you want to push that word, so I can't -- I can't agree with that, okay, but if you say that I believed that that's clear-cut; in other words, it's -- it's there and -- and accepted and accepted by the expert, yes, I mean the answer is yes. At the time.
Q. Your book at page 5 talks about two distinct varieties of rewards that one gets from smoking, internal and social.
A. Uh-huh.
Q. Do you recall that?
A. No. I would have to --
Q. On the right-hand side, I've highlighted it for you.
(Witness reviewing document.)
Q. Have I read that correctly?
A. Yes, let me just finish the paragraph.
(Witness reviewing document.)
A. Yes, you read it correctly.
Q. And the internal rewards are definite

physiological effects upon the body?
A. Yes.
Q. These are the initial sensations of taste and smell?
A. Yes.
Q. Followed by stimulation of sensory receptors in the mouth?
A. Yes.
Q. What are those, the sensory receptors in the mouth?
A. There are a number of sensory receptors in the mouth, taste -- mostly they are taste receptors.
Q. And they're stimulated by smoking?
A. By the smoke, yes.
Q. By the smoke itself?
A. Yeah.
Q. And there are sensory receptors in the respiratory tract?
A. There are -- yes, there are respiratory receptors in the -- in the -- there are -- I'm sorry, there are receptors in the respiratory tract, yeah, that's correct.
Q. And they receive signals about the smoke being inhaled?
A. Yes.

Q. And then you say, "more important, there are the effects of the nicotine." Do you recall that, sir, the last two lines?

(Witness reviewing document.)

A. Yes.

Q. What are the effects of nicotine that you were speaking of at the time?

A. I can't -- again I can't go back and -- and reconstruct what -- what I meant by that at the time, so it's -- it's hard for me to answer that, but I believe that -- that that set of total responses that I describe now involve also input from the -- the impact of nicotine.

Q. Has your understanding of the impact of nicotine or the effect of nicotine changed since 1976 when you wrote the book?

A. Substantially, yes.

Q. And what is your present-day understanding of the effects of nicotine on the body?

A. On the body in general?

Q. Yes.

A. I have no idea about what is the impact of nicotine on the body. Again, that is not an area that I'm interested in or area of my expertise. I do know -- I have some knowledge and -- and views about

the impact of nicotine on the behavior of smoking and on the evolution of, as I said, the bond between smokers and the -- and the cigarettes and how this might be -- you know, how is -- nicotine might be participating in this process.
Q. Well we'll get to the bond in a little while.
A. Okay.
Q. Let's stay for the moment with the physiological effects of nicotine. Do you have any information to share with us and ultimately the jury at the trial of this case --
A. Uh-huh.
Q. -- about the physiologic effects of nicotine from cigarette smoking?
A. Yes.
Q. What are those?
A. Nicotine is a -- is considered to be a stimulant, it's considered to be a psychomotor stimulant. And it interacts with the cholinergic system in the brain.
Q. Anything else?
A. If you ask me I'll be able to answer, but these are the two things that come to my mind.
Q. Well, have you told me all the effects of nicotine on the human body?

A. I'm sure that I did not tell you all the effects of nicotine on the body, but I told you the two major things that come to my mind when you're asking me about the impact of nicotine on the -- on the body.

Q. What is the cholinergic system?

A. It's a neurotransmitter system that it's neurotransmitter substance is acetylcholine.

Q. And what part of the brain is affected by nicotine interacting with the cholinergic system?

A. Many, many parts of the brain.

Q. Many parts?

A. Yes.

Q. Any one come to mind?

A. The medial forebrain --

(Reporter interruption.)

A. The medial forebrain bundle, the -- the hippocampus, the striatum.

Q. Are you familiar with the nucleus accumbens?

A. Yes, I am familiar with the nucleus accumbens.

Q. Where is it?

A. The nucleus accumbens is in the mid brain in the -- is a part of the -- it's part of the striatum in one sort of corner of the striatum and it is the end point of -- or considered to be the end point of one of the dopamine pathways.

Q. Does nicotine have an effect in the nucleus accumbens portion of the brain?
A. Yeah -- yes, yes it does.
Q. What is it?
A. It stimulates cells within -- within the nucleus accumbens.
Q. "Stimulates" meaning what, excites them?
A. It excites them, it activates them.
Q. And what happens when it does that?
A. They fire.
Q. And then what happens?
A. They go into a refractory period.
Q. And then what?
A. Then they go into a relative refractory period.
Q. And then what?
A. And then they are ready to fire again. If there is still nicotine in the system or nicotine still impinges on them, they will fire again.
Q. What, if anything, does that have to do with dopamine release?
A. Any firing of a neuron activates a -- a release of a substrate, the substrate of that system, the chemical substrate of that system into the synaptic gap so that it can then activate the postsynaptic cell, so clearly by firing the -- the cells, the --

the -- if the -- if the -- a substance, nicotine or any one, any other, if they stimulate and fire the cells, that will cause some release of -- of the substance, so in the nucleus accumbens it will probably produce some release of dopamine into the -- into the synaptic gap.

Q. Are you sure about that?

A. Yes.

Q. You're certain?

A. Yes.

Q. And in terms of the sensation to an individual, is there one from dopamine release?

A. You have to spec -- to be a little bit clearer. You're not asking a clear question. What do you -- what do you mean?

Q. What part of the question don't you understand?

A. The whole question.

Q. Okay. When there is dopamine release --

A. Anywhere?

Q. -- in the brain --

A. Yes.

Q. -- is there any sensation from that that is observable or noticeable to a human being; to a smoker, for example?

A. It's not possible to answer that question, as a

whole. That depends where the release occurs, it depends what are the conditions that the release occurs in, and so therefore it's hard to answer -- straight on to answer your question. Yeah, of course there are some reactions to the fact that dopamine is released but it depends where and under what circumstances and so on.

Q. What are the effects of nicotine in the medial forebrain bundle?

A. Same thing, it's a stimulant, it activates -- activates neurons within -- within that system.

Q. Same answer with respect to the hippocampus?

A. Yes.

Q. Or does it do something different in the hippocampus?

A. No.

Q. Does nicotine have an effect on skeletal muscle relaxation?

A. Skeletal muscle relaxation. Not that I am aware of, but it's possible.

Q. Does it have an effect on increasing the heart rate of the individual?

A. Yes.

Q. How about the blood pressure of the individual?

A. I'm not aware of any changes in -- in blood

pressure, but it's possible.

Q. You don't know for sure?

A. I don't know for sure, no.

Q. Does nicotine have any effect on the endocrine system?

A. Same answer, it's -- it's possible, but I'm not sure.

Q. In its actions; that is, nicotine's effect on the brain, --

A. Uh-huh.

Q. -- is it similar to cocaine?

A. No.

Q. Is it like the amphetamines?

A. No.

Q. It acts; does it not, as a psychomotor stimulant?

A. That is correct.

Q. Causing the release of adrenaline?

A. That's what I -- if you're reading from my book, that's what I thought at the time. I changed my mind since then.

Q. Okay. When did you change your mind?

A. Probably in the last ten years.

Q. You thought about these issues about nicotine and its effects more than three years ago?

A. Of course I thought -- talked about -- I thought about nic -- I followed the field of the interaction of psychoactive substances, you know, in general, and among them about nicotine, yes.

Q. Your interest in it has been secondary to your work with respect to alcohol; isn't that true, until you were contacted by counsel about three years ago?

A. Secondary with regards to alcohol, yes.

Secondary with regards to alcohol, yes.

Q. Right.

A. But I had an interest in all areas of psychoactive substances, and their -- you know, and their effects, so I followed -- you know, I followed the literature on -- on nicotine, on other, caffeine, opiates, cocaine, amphetamine, all kinds of substances, but my primary interest and my primary concentration was with alcohol, you're quite right.

Q. On page 6 of the book, I point out to you the area I'd like you to look at, there's a sentence which indicates that nicotine in its actions is like cocaine and the amphetamines; do you see that?

A. That's correct, yes.

Q. Was that a true statement at the time you wrote it?

A. At the time I believed that it's true but

evidence that came after that made me change my mind.

Q. When was that that you changed your mind?

A. The last few years.

Q. And what evidence did you base that on?

A. I don't know. Mostly the work by Corrigal and by Franklin and Clark, but primarily probably the work by Corrigal.

Q. Which of Corrigal's work are you thinking of?

A. Which of Corrigal's?

Q. Yes, he wrote more than one thing; did he not?

A. Yes. Do you want me to give you the specific paper? I can't --

Q. No, --

A. I can't do that.

Q. -- tell me the concept.

A. The concept is that he showed in his work on the self-administration of nicotine and compared it to cocaine that are two are different.

Q. Any other basis other than the work of Corrigal? You mentioned someone else?

A. Yeah, Franklin and Clark. I think that Corrigal may have been also an author on that paper, there's a multiple authorship, Franklin, Clark, could be also Corrigal, mostly related to nicotine and dopamine and again showing that it is in some very significant

ways different than the interaction between dopamine and cocaine.

Q. Corrigal and his colleagues found that their observations of nicotine self-administration, the activity was in the ventral tegmentum rather than the nucleus accumbens; right?

A. The reaction -- the reaction of nicotine. No, why don't you ask the question again. I --

Q. Sure. Is it true that Corrigal's work links his observations of nicotine self-administration to activity in the ventral tegmentum rather than the nucleus accumbens?

A. That is quite correct.

Q. And is that the distinguishing characteristic between the effect of nicotine and cocaine?

A. It's one of the distinguishing characteristics, yes.

Q. So that if someone had demonstrated that nicotine in fact has an effect in the nucleus accumbens would that cause you to change your view as it relates to the comparison between nicotine and cocaine?

A. No, they'll need to do much more than that, because I already told you that I believe that nicotine does have a releasing impact within the --

the nucleus accumbens, but with regards to the -- their support of self-administration they will need to -- to do much more than just to show me that -- that that will cause a release within the nucleus accumbens. There is such a report.

Q. Which one is it?

A. It's by DiChiara and his group, the Italian group.

Q. How do you spell DiChiara?

A. Capital D-i, capital C-h-i-a-r-a.

Q. DiChiara and his group demonstrated what, sir?

A. That if you apply nicotine to the shell of the -- the nucleus accumbens you get a release of dopamine.

Q. And the significance of that to you is what?

A. Significance to me is is that it's not very significant.

Q. As it relates to cocaine?

A. As it relates to the properties of nicotine in inducing once again a bond between smoking and -- and the -- the smoker, and as it relates therefore -- yeah, and in that sense as a comparison with the self-administration of cocaine.

Q. Are you familiar with the work of Dr. Rowell on the nucleus accumbens?

A. No, not at all.
Q. Do you know who Dr. Rowell is?
A. I've heard the name, but that's about all.
Q. Do you regard him to be an eminent scientist?
A. I'm not in a position to comment on his work. I don't know.
Q. Okay. Do you know if he's involved at all in the tobacco litigation in any respect?
A. I believe that he is, yes.
Q. Have you been told anything about that?
A. No.
Q. Do you know which side he's testifying on?
A. I believe that he's testifying on -- on behalf of the tobacco industry, but I'm not even a hundred percent sure. Yeah, no, I believe that he is testifying on behalf of the tobacco industry.
Q. Okay. And you have not read any papers that he's written?
A. Not one.
Q. Has it been demonstrated based upon your review of the literature that nicotine and cocaine activate overlapping patterns not only in the shell but in the core of the nucleus accumbens?
A. There are some people who claim that has been demonstrated and some people who claim that it

hasn't.
Q. So that's a matter of controversy as you see it?
A. Yes.
Q. And what is your personal view as to whether in fact they do stimulate overlapping patterns not only in the shell but the core of the nucleus accumbens?
A. I don't have an opinion about that, I -- and it stems from the fact that I don't think that for the kinds of questions that I'm interested in it's particularly important.
Q. Is cocaine addictive?
A. I don't like the term "addiction"; I think it's a bad term, and therefore I don't use it, and therefore I can't answer your question.
Q. Fine. Is it dependence-producing?
A. Yes.
Q. Cocaine?
A. Yes.
Q. And is nicotine dependence-producing?
A. Nicotine, if it's dependence-producing, in my definition of the term "dependence," yes.
Q. What is your definition of the term "dependence"?
A. That with -- that if the -- the intake of a substance causes an increase in the probability and

in the frequency of another incident of intake of that substance, when that occurs, a dependence develops on the -- on that substance which is primarily mediated by the reinforcing properties of the substance.

Now, I have to come back to a question earlier. Did you ask me if nicotine is producing dependence?

Q. Yes.

A. No, the answer -- I'm sorry. No, I have to correct myself. No, I don't believe that nicotine is producing dependence. Cigarette smoking is producing dependence.

Q. In part due to nicotine?

A. In a small, minor part, probably yes, but in a small, minor part.

Q. All right. Putting aside whether we were talking about nicotine or nicotine and cigarettes, that is your definition of dependence?

A. That is my definition of dependence.

Q. Thank you. I'd actually like to hear it again and have you read just that part back to me so I can hear it again.

A. Sure.

Q. All right.

(Comments off stenographic record.)

(The record was read by the reporter.)
Q. And just to be clear, Dr. Amit, the substance you were speaking of in answer to the last few questions was cigarettes, not nicotine in its pure form?
A. No I was answering in general. You asked me what's your definition of dependence.
Q. Yes.
A. That's a definition that will apply to any drug that produces or any substance that produces dependence. More specifically, with regards to smoking, I have said that the dependence develops to the smoking of cigarettes with nicotine playing maybe a minor role, probably a minor role.
Q. Is nicotine a drug?
A. That will depend on your definition of a drug.
Q. What is your definition of a drug?
A. My definition of a drug is any substance that produces significant changes in the status -- that when applied to an organism it produces significant changes in the status of the organism.
Q. Adopting your definition, is nicotine a drug?
A. It will fall within the category of being a drug, yes.
Q. Is --

A. I would prefer to just refer to it as a chemical substance, but it will fall within my definition of a drug.

Q. Is it a poison?

A. What is the definition of a poison.

Q. Is it capable of causing death?

A. Anything is capable of causing death if you give it in a large enough dose. If you give water in a large enough dose, it will cause death. So the answer would be in that context, yes, if you give it in a large enough dose, it will -- it will cause death, like anything else.

Q. In the course of your work since you first met Mr. Nims you've kept abreast of the literature as it relates -- the psychopharmacological literature as it relates to cigarettes, cigarette smoking, nicotine in the general sense; true?

A. That's right, yes.

Q. Does cigarette smoking produce a dependence?

A. I believe so, yes.

Q. And do you in your definition of dependence have gradations of dependence ranging from mild to serve?

A. Dependence is by the definition that I have provided you --

Q. Yes.

A. -- is a phenomenon that is placed on a continuum.

Q. All right.

A. And therefore, yeah, I mean there are -- technically after the second application -- or the second intake of the same substance that presumably increased the probability -- in the first instance increased the probability that the second intake will occur, you are already placed on a continuum which is a continuum of dependence. At that point your dependence quotient is -- is minimal, but technically and theoretically you are already then on a -- on a dependence continuum.

Q. And looking at a dependence continuum with specific reference to cigarette smoking, in your experience and understanding of the issues is there a range of dependence ranging from mild to serve?

A. It's difficult to answer this question because I have to -- You see, in many of the drugs that we have looked at, we can rely -- in my opinion rely quite heavily on animal studies. In the case of nicotine that's not so simple, it's not so easy, so we have to rely more on the behavior of humans with less reliability -- reliance on -- on animal work, so yes, there is a range from minimal to -- to significant.

Q. In order for a substance to be dependence-producing, does it have to have psychoactive effects?
A. Yes.
Q. All right. And in order to be dependence-producing does the amount of psychoactive effect between substances matter in terms of whether the dependence it has produced is mild, moderate, or severe, or is -- or is mild, moderate to severe a function of behavior?
A. It's the function of an interaction of that specific substance with that specific organism.
Q. Okay. You mentioned earlier a bond that involves nicotine, the smoking behavior and cigarettes, that it acts in some sort of bonding fashion I take it?
A. I said there is a bond that develops. What we're talking here is this bond, this -- the evolution of the increase in the frequency and probability of additional intakes is what I am referring to as a bond. I said nicotine may play a minor role in the evolution of that -- of that bond or that dependence.
Q. Okay. In terms of nicotine and its minor role in the development of that bond or dependence, what

is the scientific basis for that statement?
A. For the statement that it does or that it's minor?
Q. That it's minor.
A. The evidence is that all -- most of the studies that were published in the field that looks at these things which is mostly self -- you know, using self-administration of nicotine in -- in -- mostly in animals show that under normal circumstances, meaning using normal paradigms, that produce ready and reliable self-administration in a variety of drugs, nicotine will not produce self-administration; in other words, it is not a drug that -- that acts and -- and produces that bond or dependence and when we look at animal studies the way other drugs do.
Q. So one basis for the minor role of nicotine in creating dependence in cigarette smoking is that self-administration studies in animals do not show the self-administration of nicotine, the animals don't self-administer nicotine?
A. And -- Yeah, that's right. And the point -- There are people that claim that they do, of course, but I differ from their opinions.
Q. Okay. What studies are you relying on?
A. I'm relying on Goldberg, Goldberg and

Henningfield, Barrett, Singer, Corrigal.
Q. Any others?
A. Yeah, a recent paper, a very recent paper by Shoaib.
Q. Spell that one for me.
A. S-h-o-a-i-b.
Q. S-h-o-a-i-b?
A. (Witness nods head.)
Q. And where was that published?
A. Psychopharmacology, The Journal of Psychopharmacology.
Q. And what did that paper show?
A. That paper contributed to me giving nicotine the role of minor. Had there been -- had our conversation taken place prior to the publication of this, I would say that it doesn't play any role. I -- I have to concede on the basis of that paper that it may play a minor role.
Q. So before Shoaib's paper you would have said nicotine played no role?
A. In the self-administration of drugs, that's correct.
Q. What were the results in Shoaib's paper?
A. The results in Shoaib's paper are that in his paradigm, and it has some peculiarities, but in his

paradigm animals will self-administer nicotine, but the number of animals, the percentage of animals in his group that learned to do so is significantly smaller than in -- than what we see in self-administration of other drugs.

Q. What's the purpose of a self-administration study?

A. That's a very general question, you know, meaning that I'm sure that there are people who have different purposes in -- in studying it, but generally within the field it is to study the reinforcing properties of -- of that substance that is -- that its self-administration is being examined on.

Q. Would you agree that the purpose of such a study is to test the drug's ability to induce and maintain drug-reinforcing behavior?

A. Yes.

Q. Are you familiar with the work of Cox, Goldstein and Nelson?

A. Yes.

Q. They determined; did they not, that rats do self-administer nicotine?

A. Yes.

Q. Okay. You disagree with their results?

A. Yes.
Q. Why?
A. Because Barrett around the same time published a paper using almost an identical paradigm and concluded that -- that he was not able to replicate the work of Cox, Goldstein and -- and I think it was another author to that paper, and since Barrett's work is much more in line with the rest of the literature, I had to conclude that somehow the results of Goldstein's paper, Cox and Goldstein and others, I don't have any proof of it, but it had been confounded.
Q. Isn't it true that the difference between the two camps having to do with self-administration studies of nicotine relates to the availability of nicotine or the manner in which it's administered?
A. No. I'm not -- I mean unless you are pointing at something that I'm not aware of, no, the answer is no.
Q. Well isn't it true that the intermittent availability of nicotine in self-administration studies that mimic smoking shows that rats will self-administer nicotine?
A. No. No, that is not true.
Q. That's not true?

A. No.
Q. That's a false statements?
A. That's a false statement.
Q. Have you read at any point along the way the United States Food and Drug Administration's Report from August of 1995 entitled Nicotine and Cigarettes and Smokeless Tobacco Products is a drug and these products are nicotine delivery devices under the Federal Food, Drug and Cosmetics Act?
A. No.
Q. All right. Here it is. Do you have any reason to disagree with the United States Food and Drug Administration on this point that they're talking about?
A. If I --
MR. NIMS: Objection.
Q. Go ahead.
A. I don't have any reason to agree or disagree. I would like to -- I mean if they made any statements, I will have to look and study and read the statements and see whether I agree with them or not.
Q. Take a look at the highlighted part on the left.
A. This part?
Q. Yes, sir. Uh-huh. Read that sentence to

yourself.

A. Sure.

MR. GINDER: If that's not in the record, can you read it out loud so it's in the record.

Q. Oh, sure, go right ahead. There's a page number there at the bottom there, Doctor. Why don't you --

A. It's page -- I'm sorry. It's page '97.

Q. All right. Go ahead, read the statement that appears there.

A. "It was discovered that the reinforcing efficacy of nicotine is highly dependent on the schedule by which the drug is made available to the animals and the -- and the specific amount administered. Intermittent availability of nicotine which parallels the pattern of cigarette smoking will induce self-administration in animals, while continuous administration which was used in the earlier studies, is far less likely to do so."

Q. And do you disagree with that statement?

A. Strongly.

Q. Okay. Are you aware of human self-administration studies with respect to nicotine?

A. I believe the only thing that comes to my mind is a study by Henningfield and his -- and his associates where they -- they ask people to -- you

know, they gave injections, you know, intravenous injections of nicotine. How they managed to pass by the ethics committee is beyond me, but you know, there is -- there is such a study.

Q. And it came to the conclusion; did it not, that the human subject self-administered nicotine in a regular, orderly pattern that mimicked smoking?

A. That's the conclusion that they came to, yes.

Q. Do you agree with that?

A. No.

Q. Why not?

A. Because I do not believe that self-administration studies can be done in humans and give meaningful results. Given the cognitive functions and capacities of human beings and their knowledge, prior knowledge and experience, I -- I do not believe that you can do proper intravenous self-administrations of any drug. In fact to my knowledge this is the only study that ever tried to do that with any chemical substance.

Q. And you believe --

A. To my knowledge.

Q. Yes. And you believe there's some ethical concern with respect to what Dr. Henningfield did here?

A. Yeah, I believe that there's some ethical concerns, yes.
Q. What is it?
A. And this is that you give humans an intravenous injections of the drug for experimental purposes, not for therapeutic purposes.
Q. And what is the ethical issue there?
A. The issue is that it's an invasive procedure, an invasive procedure that is done solely for experimental purposes.
Q. We were talking about the basis of your opinion that nicotine plays a minor role in producing dependence in cigarette smoking.
A. Yes.
Q. Other than the self-administration studies, is there any other basis for your view in this regard?
A. Yes.
Q. What is that, sir?
A. It's the work that was done on -- on the nicotine patch and the nicotine substitutes in -- as an aid to smoking cessation.
Q. What about them?
A. As Dr. Benowitz stated in one of his papers, I can't recall now which paper, but in one of his papers, by and large the results of these were

disappointing. If nicotine was -- really played a major role in the development of dependence on -- on cigarettes, they wouldn't have been disappointing.

Q. How do you mean?

A. If a human or an animal performs the operative response, whatever the operative response is, in order to obtain nicotine and that is therefore the reinforcer, then giving the nicotine through another route should cancel the need to perform that response. That has not been demonstrated in the studies that examined the efficacy of nicotine substitutes to the degree that will allow me to say that it is now -- that they demonstrate that nicotine plays a major role in the development of dependence.

Q. Are you familiar with studies concerning nicotine nasal sprays?

A. A little bit, yes.

Q. And what did they conclude?

A. They are a little bit better than the patch, but they are still not eliminating the need for the self-administration of cigarette smoke.

Q. Have you at any time read the work of Rose and Tashkin on this subject?

A. I read a number of papers by Rose, yes.

Q. With respect to whether or not long-term smoking

is continued specifically because of the pharmacological effects of nicotine, do you recall a paper by Rose and Tashkin on that subject?

A. No, I recall another paper by Rose and Tash -- by Rose, I don't even remember who are his coauthors.

Q. I take it to the extent that Rose and Tashkin reached that conclusion, you would disagree with it, that long-term smoking is continued because of the pharmacological effects of nicotine?

A. Yeah, I will disagree with that, yes.

Q. Strongly?

A. Significantly.

Q. Are you aware of -- I'll withdraw that.

Other than the self-administration studies that we have spoken about and the nicotine replacement products that we've spoken about, are there any other bases for your view that nicotine plays a minor role in producing dependence in cigarette smoking?

A. I can't think right now immediately of -- of others, but there may be other. I can't -- right now I will stay with these and I can't think of -- of others at this very minute.

Q. If as we go along you think of any reason, --

A. I will --

Q. -- I hope you will tell me.

A. I will tell you.
Q. Besides nicotine, what are the factors in your opinion that produce dependence to cigarette smoking?
A. Frankly I don't think that we really know fully what are the -- the -- the full contribution to the variants of cigarette smoking. I believe that taste factors play a role, I believe that the -- the physical sensation in the bucal cavity and the upper respiratory tract, meaning the throat, play a role, so these are the factors that -- that come to mind, but I am not trying to suggest -- I would like to emphasize actually that like with so many of the other drugs, we don't know yet at this point the full extent of the factors that contribute to development of self-administration and/or dependence. Lucky for that, it keeps us in business. We can continue to do research. But I don't -- and therefore the same, I believe, is true, about alcohol and about -- which is the primary area that you suggested that I work in, and so is the nicotine, but clearly I think there have been demonstrations that the -- the taste and the sensation of smoke in -- in the -- in the bucal cavity are significant factors in -- in the self -- you know, in the self-administration of -- and the intake -- we're talking about humans now -- of

nicotine, but I'm emphasizing that I don't believe that that accounts for a hundred percent of the variance.

Q. Have you ever attempted to quantify in any way the role that each of these factors plays, bearing in mind that we're not going to get to a hundred percent because there may be other factors that are not as yet identified?

A. No, I don't think it can be done.

Q. Okay. Qualitatively speaking, you believe nicotine plays a minor role?

A. That's correct.

Q. What about the sensation of taste, does that play a minor role?

A. On the basis of -- of work by Rose, and but more substantially work by Batik, I think it plays a more important role than nicotine, yes.

Q. And how about the upper respiratory sensation, does it play --

A. I can't -- yeah, I think it plays, but I can't -- again, I can't distinguish it, because it's -- it's perceived by the individual at the same time and in very -- I mean the -- the perception is generated by -- by the close proximity of the same area, so it's very difficult to separate what -- what is

contributed to by -- by what.

Q. As between nicotine and taste, the taste factor you believe is more important than the dependence-producing aspects of cigarette smoking?

A. You see, I'm not -- I'm not sure, I'm not sure that nicotine doesn't actually contribute to the taste of -- of cigarettes. Okay. I think that there is some evidence and some people argued that actually the nicotine can contribute to the taste, but again it's hard to say, because as any scientist knows, when you -- when you introduce three variables at the same time in the same -- acting in the same physical area, it's very difficult to separate them and say this comes from this and this comes from this and this comes from this, so it's hard for me to answer that.

Q. How long does it take for nicotine to reach the brain from a puff of a cigarette?

A. It would be a matter -- very, very short time.

Q. Seconds or less?

A. Not less than seconds, but it will be in the order of magnitude of seconds, yeah.

Q. Under five?

A. No, I don't believe so.

Q. Under ten?

A.   I don't believe so, but if -- if you ask, I would be more comfortable with say a half a minute, say 30 seconds, something like that. Again not as a definitive statement, but I would be more comfortable --

Q.   A range.

A.   -- with that -- that range of about 30 seconds or so.

Q.   Do you believe that people would smoke cigarettes if they did not contain nicotine, as a habit or a dependence?

A.   I can't answer that question without some more information. Like what will be the taste of that product? What would be the sensation that that product will produce? Without that, --

Q.   Yeah.

A.   -- it's hard for me to answer that -- that question.

Q.   Fair enough. Assume everything about cigarette smoking is the same but the cigarette does not contain nicotine. Do you believe based on all that you know about the dependence-producing characteristics of cigarette smoking that people will continue to smoke cigarettes if they did not contain nicotine?

A. I can't answer that definitively, but I would believe that that's a very strong likelihood.
Q. But you don't know for sure?
A. No, I don't know for sure. I do know of a paper by Rose, I believe it's the same Rose that you were referring to before, that is looking at minimal levels of nicotine or very low levels of nicotine, it wasn't without any nicotine at all, and people were smoking it.
Q. Returning to your book for a moment, at page 6 you write, "Smoking was presented to you," meaning the reader, "as extremely sophisticated or tough or masculine or feminine, in movie after movie, magazine advertisement after magazine advertisement."
Do you recall that statement?
A. Let me read it. Here?
Q. Check me, make sure I didn't misread.
A. Is that -- is that this one here?
Q. Yes, sir.
A. Okay, sure.
(Witness reviewing document.)
A. Yes.
Q. Have I read it correctly?
A. You read it correctly, yes.
Q. You were suggesting there; are you not, that an

influence has occurred upon people from movies, advertising and so forth?

A. Did I actually use the word "advertising" there?

Q. Twice.

A. Can I see?

(Witness reviewing document.)

A. Yes, you're quite right, twice.

Q. And I take it that by this you mean or meant in 1976 that the decision to either begin smoking or continue smoking was influenced by the fact that it was presented in certain attractive ways by movies and advertising?

A. That's what I thought at the time, yes.

Q. Okay. And the position that was taken in 1989 in Canada, having to do with billboard advertising --

A. Any advertising.

Q. -- any advertising -- I'm sorry -- the position that you supported at that time was directly contradictory to this statement; was it not?

A. That's right, that's right.

Q. I'm sorry.

A. Yes, that -- that is correct. Most of the data that I described to you before came after the publication of this book, quite a few years after the

publication of this book.

Q. Well was there scientific support for this proposition that I just read to you on page 6?

A. No, that is something that I believed, but this book is not a scientific document, it is -- it is -- at that time I believed because of my impressions and what was commonly held these were the factors that contributed to the initiation of smoking and I might tell you that I no longer hold this view.

Q. What was the LeDain Commission, L-e, capital D-a-i-n?

A. That's right. That is in -- in Canada. There was an institution that's called The Royal Commission of Inquiry that the government appoints to investigate a certain issue. I believe -- I believe, not being American, that this is comparable to a congressional commission or something like that.

Q. Nothing is comparable to a congressional commission.

A. You know something, you're quite right. It is not really comparable, because the commissioners are not politicians and they're not people that hold office, they are appointed by the government usually as experts, you know, in -- in the field, and in 19 -- I believe in 1969 or 68 the government of Canada

appointed a commission of inquiry into the nonmedical use of drugs. The chairman of that committee was I think Gerald LeDain, I think his first name was Gerald, so Gerald LeDain, who was then the Dean of Law in Osgood Hall which is one of the prominent law schools in Canada, and members of that committee were -- commission were a number of people considered experts within this area, and they published first an interim report I believe came out in 1970 or 71, and then I believe in 1972, although again I may be mistaken by a year or so about the dates, their final report.

Q. And that report concluded that smoking is not maintained by a physiological dependence, instead by a psychological dependence?

A. I don't remember what the commission at the time said, but I believe so. I can't -- I can't one hundred percent. Yeah.

Q. You said that on one of the pages of the book --

A. Page 9.

Q. -- and does that refresh your memory that that's what they said?

A. Yeah. No, I said to you I believe that that's what they said.

Q. Yes.

A. And that just confirms -- you know, confirms what I believe, yes.
Q. In terms of its effect on human beings, is nicotine a mild, moderate or powerful agent?
MR. NIMS: Objection.
A. You'll -- you'll have to define for me what you mean by these -- by these things. I mean you can't -- you can't make a general statement about that.
Q. What did you mean when you wrote that on page 9 in the middle of the page. Why don't you read the sentence for the record, the middle one there.
A. Okay. That is page 9.
Q. Yes, in the middle.
A. And it starts with "No one would deny that there are substantial internal rewards and gratifications to be gained from smoking, particularly from nicotine. Nicotine is a powerful stimulant and a powerful reward agent. In various laboratory studies, it has been shown by Deneau, and Inoki,** scientists at the Department of Pharmacology, University of Alabama, that monkeys will perform strenuous tasks in order to be rewarded by an injection of nicotine."
Q. So what did you mean in 1976 --
A. I meant exactly what I said there.

Q. It's a powerful stimulant?
A. That's what I thought at the time, yes.
Q. And a powerful reward agent?
A. That's right.
Q. Have you changed that view?
A. Absolutely.
Q. Until the publication of was it Shoaib's paper --
A. Yes.
Q. -- you believed nicotine played no role in dependence-producing activity?
A. No significant role in the -- in the self-administration, reinforcing, reinforcement, yes. It may -- again I want to emphasize the words "significant role".
Q. Is it true that nicotine in your view does not cause a dependence because it is not accompanied by withdrawal symptoms?
A. The -- it is my view that nicotine does not produce physical dependence. Since --
Q. Physiological?
A. Physical.
Q. Is that different than physiological?
A. No, but that's the term that is being used by the World--

Q. Okay. I just want to understand.
A. Well, yeah, there are some people that are using the word "physiological dependence," but really the term that is commonly used by say the World Health Organization Expert Committee on Problem Drug Dependence has been physical dependence. Now we are in semantics, it's not a -- you know, it's not a substantial difference. So yeah, I believe that -- I believe that nicotine does not produce withdrawal symptoms in the way and in the sense that I consider to be withdrawal symptoms, and therefore I do not believe that nicotine produces physical dependence.
Q. You mention the World Health Organization.
A. Uh-huh.
Q. That body has included nicotine as an addictive drug; has it not?
A. I don't believe that the World Health Organization have used the word "addiction".
Q. It has used the word "dependence"?
A. That's correct.
Q. Okay. And do you agree or disagree with that organization in that characterization?
A. That -- that what, nicotine -- I've said, cigarette smoking, yes, I believe that cigarette smoking produces dependence. Yes, I've said that to

you on several occasions. Does -- I said I don't -- I -- I believe that if nicotine plays a role, yes, it plays a minor role, on the basis of evidence that I already described to you. Does it produce a -- a physical dependence? I don't believe the World Health Organization suggested nicotine produces physical dependence.

Q. And it -- and its lack of physical dependence is due to the fact that it does not produce withdrawal symptoms?

A. That's correct.

Q. Do other drugs that do cause dependence also cause withdrawal symptoms?

A. Some do and some don't.

Q. Okay. Which ones don't?

A. Cocaine doesn't.

Q. How about the amphetamines?

A. It's more debateable. Some people will argue -- I think there is some evidence to suggest that there is some form of -- of reproducible withdrawal symptoms with amphetamines but not with cocaine.

Q. And how long has that work been known; that is, that the amphetamines may produce some withdrawal symptoms? More than 20 years?

A. Let's say around 20 years.

Q. Okay. On page 10 of your book the second highlighted sentence there, would you read that?
A. Okay. That's page 10. Let me start with, "Animals and humans will go through withdrawal behavior when maintained on - and then deprived of - morphine derivatives, barbiturates and, in certain circumstances, alcohol. But they will not exhibit withdrawal when deprived of cocaine, amphetamines, marijuana... or nicotine."
MR. SILBERFELD: We probably ought to take a break.
MR. NIMS: Sounds good to me.
MR. SILBERFELD: We been going for a while.
(Recess from 2:08 to 2:23 p.m.)
Q. Doctor, returning to Exhibit 658 which is the book, in the chapter entitled Satiation Smoking, you say, "One final word: however unpleasant it feels, satiation smoking is not injurious to health or at least, no more injurious than smoking a couple of cigarettes in a normal manner."
A. Uh-huh.
Q. Do you recall that statement?
A. Yes.
Q. What was the basis of the statement that smoking

in the manner described in this chapter is not injurious to health?

A. The basis was really that we consulted with some physicians in -- in Montreal that -- that we knew at the time and their opinion at the time was that that would not be more injurious than just smoking, so on that basis we -- we have made that statement.

Q. To your knowledge did anyone at any time conduct any study or experiment of satiation smoking to determine scientifically whether it was injurious or not?

A. Not to my knowledge.

Q. In the back of the book there are references, and are any of the studies referenced there studies of satiation smoking?

A. I will have to look at the list.

(Witness reviewing document.)

A. I believe yes, but I'm not a hundred percent sure.

Q. All right. Would you tell me which ones you believe are studies of the phenomenon of satiation smoking?

A. I believe the study by Resnick is -- is a study of satiation.

Q. Did Resnick's study, if it's about satiation at

all, deal with the health effects of satiation smoking?

A. I can't tell you. I don't remember.

Q. Any study other than Resnick that you can think of?

A. No, not -- not that I feel comfortable in pointing out because it could be, but I can't say that I am -- that I know.

Q. Do you believe that stopping smoking is as difficult as giving up alcohol?

A. Do I believe now at this point that stopping smoking is as difficult as alcohol?

Q. Yeah.

A. No, I don't believe that.

Q. Do you believe now that stopping smoking is as difficult as giving up heroin?

A. No, I don't think so.

Q. Did you ever believe that?

A. No.

Q. Let me show you page 207 of your book, and if you would read the first highlighted sentence there.

A. "You are a nonsmoker. And that" --

Q. No, just the highlighted portion.

A. Okay.

Q. You're happy to read the whole thing.

A. No, I'm reading just the highlight -- the highlighted portion. Here or here? Which one? You have two.

Q. I apologize. "You are a nonsmoker"; that's the one, you're right.

A. "And that is an enormous achievement. Stopping smoking, all the research indicates, is quite as difficult as giving up alcohol, or even heroin. But you have succeeded. Congratulations" -- "Congratulate yourself on your accomplishment."

Yes.

Q. At the time you wrote that in 1976 that was not a true statement or at least you didn't believe it?

A. I said -- I think that I said here clearly, the literature indicates, and there was some literature at that point that indicated that quitting smoking is by -- you know, is as difficult as that. I've had some doubts about that, but I went along with -- with this because the literature -- there was some literature and that's what we said, I didn't say that I believe had that, I said the literature seems to indicate that.

Q. It says "all the research indicates".

A. Uh-huh.

Q. Right?

A. That's what it says, yes.
Q. That's the entirety of the literature about smoking cessation as of 1976 --
A. Yes.
Q. -- indicated that smoking was as difficult to give up as alcohol, --
A. Uh-huh.
Q. -- or even heroin?
A. Uh-huh.
Q. Yes?
A. Yes.
Q. Did you found The New Clinic?
A. That's correct.
Q. With Dr. Sutherland?
A. That's correct.
Q. And on the last page of this document which is Exhibit 658, which I believe to be the inside of the dust jacket, we have once again the statement about the 300 men and women successfully treated.
A. Uh-huh.
Q. Yes?
A. Yes, we have that, yes.
Q. It's there?
A. Yes, it is.
Q. And it's false?

A. It is not correct.
Q. It's false?
A. It is not correct. "False" is your word. I would chose to say it's not correct.
Q. From and after the time you first met with Mr. Nims three years ago have you met with other lawyers, involved in tobacco litigation?
A. Yes.
Q. Who?
A. I met with Mr. Gale, Todd Gale, and Mr. McDonnell.
Q. Anyone else?
A. No, I don't believe so.
Q. When did you first meet with Mr. McDonnell?
A. A few months ago. I -- I can't be more specific than that. A few months ago.
Q. Who does he represent?
A. I believe that he represents Philip Morris.
Q. And who does Mr. Gale represent?
A. I believe -- I've never figured out the difference between British American Tobacco and Brown & Williamson, but he represents either one or both of these companies.
Q. And when did you first meet him?
A. Also a few months ago.

Q. What were the -- did you meet them together or separately?
A. Separately.
Q. And what was the occasion?
A. The occasion that -- no, I met with Mr. Gale together with Mr. Nims at a certain point.
Q. All right.
A. Then I met with Mr. McDonnell also together with Mr. -- Mr. Nims, I believe. Yeah, I believe that that's the way it was, but I'm -- I'm not even a hundred percent sure about that.
Q. Which came first, the meeting with Mr. McDonnell or the meeting with Mr. Gale?
A. I believe the meeting with Mr. Gale came first.
Q. And that was some few months ago. Was it in 1997?
A. Yes, it was in 1997.
Q. And the same for Mr. McDonnell's?
A. Yes, that's correct.
Q. And what was the purpose for the meeting with Mr. Nims and Mr. Gale?
A. I was asked by Mr. Nims whether I would consider looking at some industry-produced documents to see whether there is any evidence in these documents that the industry conducted research and collected data

related to dependence and, quote-unquote, "addiction" that marked a significant breakthrough in -- in our understanding of this and which they then -- then did not report to the public and it was not then echoed in the -- in the literature.

Q. When did he ask you to do that?

A. A few months ago.

Q. Be a little more specific. If you can.

A. May. April, May.

Q. Three to four months ago?

A. Yes. Yeah, I'm guessing. I mean it's -- but yeah, something in that range. In that range, okay, something like that. Maybe five months ago, but in that range. I don't believe more than that.

Q. Between the time you first met Mr. Nims until three or four or five months ago had you ever been shown any tobacco company documents of any kind?

A. No. No.

Q. And then when you met with Mr. Nims was that the same day you met with Mr. Gale for the first time?

A. That's correct.

Q. And were you either given some documents or shown some documents in the course of that meeting?

A. No.

Q. Did the documents come to you some time after

that?

A. Yes.

Q. When?

A. Roughly anywhere a week to ten days after that meeting, roughly speaking.

Q. And what company documents were they?

A. These were, again, B&W and B.A.T. documents.

Q. In the course of the meeting that you had with Mr. Gale and Mr. Nims what was discussed, what transpired?

MR. GINDER: Excuse me. I interject the privilege based on work product and instruct the witness not to answer. You can answer questions that are of course concerning the number, date, or time of the meeting and -- but you should not reveal the substance of any of your discussions with attorneys. This would be consistent with the position taken by the attorneys in your firm as well, Mr. Silberfeld.

MR. SILBERFELD: I thought we solved this the other day.

MR. GINDER: Which?

MR. SILBERFELD: We went over this with Dr. Rowell the other day. He answered this question.

MR. GINDER: No, I don't believe he did.

MR. SILBERFELD: Okay. Well we'll defer

the topic again and I'll go back and get further instructions.

Q. But without revealing for the moment, Dr. Amit, the substance of conversations, how long did that meeting last?

A. An hour and a half.

Q. And after that, a week to ten days later some Brown & Williamson or B.A.T. documents arrived? Yes?

A. (Witness nods head.)

Q. Yes?

A. Yes. I keep forgetting. I'm sorry.

Q. I'll continue to remind you.

A. Okay.

Q. Did you look at the documents? In the course of this period of time?

A. In the course of the time, yes.

Q. Did you make any notes?

A. No.

Q. With respect to the documents?

A. No.

Q. Did you form an impression one way or the other as to whether or not any of the Brown & Williamson or B.A.T. documents you looked at included evidence or research or data regarding dependence that represented a significant breakthrough and was not

reported?
A. I formed an impression and an opinion, yes.
Q. What is it?
A. That they did not.
Q. In coming to that opinion describe for me the mechanics as to how you did that?
A. I took one document and read it and looked to see if there was any report of a study and data that was generated that led to some conclusions, and if not, I put it aside and went to look at the next paper, and continued like that until I reached the end of that package that -- that I received.
Q. All right. In that package did you find any tobacco company research studies at all? Within the set of documents -- you looked puzzled --
A. I am.
Q. Let me try again. Within the stack of documents were there any documents that memorialized research studies --
A. Of any kind?
Q. -- done by the companies about nicotine or dependence?
A. Nicotine dependence?
Q. Nicotine or dependence. Or addiction.
A. There wasn't anything to do with nicotine and

dependence and/or addiction. There was some research about the -- the levels of -- I mean there was some research about nicotine that is unrelated to issues of dependence or addiction, but that wasn't my -- my area of interest.

Q. So in the documents you saw from Brown & Williamson and B.A.T. you saw no documents that represented research or data on nicotine and dependence?

A. Research or data, no, I did not see any research or data on nicotine and dependence and/or, quote-unquote, what is called by some people "addiction".

Q. Did you ask counsel whether they provided you with every tobacco company document that had anything whatsoever to do with research and data regarding dependence?

A. No, I did not.

Q. Why not?

A. Because they have asked me whether I would look at literature to see whether there are any evidence of breakthrough. I assumed that the literature that they sent me was the one that they want me to form the opinion on, so I read it and -- and formed an opinion. I didn't see in -- in that -- as a result

of that conversation I didn't see that my role is to verify that I have seen every single piece of paper that -- that was produced, and that's why my answer to you is with the context of the material and the literature that I've read.

Q. And all that you've seen is what lawyers showed you?

A. All that I've seen is what lawyers showed me.

Q. Have you ever been to the Minnesota depository of documents?

A. No.

Q. Do you know what I -- I'm even referring to?

A. Absolutely not.

Q. You have no idea?

A. No.

Q. Did you report your findings after reviewing the BW and B.A.T. documents back to someone --

A. Yes.

Q. -- when you finished? Who?

MR. GINDER: Again if you're talking about communications with counsel, other than the Expert Report that's been presented to you, counsel, prior to this deposition, I caution the witness not to disclose the substance of the conversations or communications you had with attorneys, but otherwise

--

MR. SILBERFELD: Even what he says?

MR. GINDER: Oh, that would be both ways, sure, the communications with counsel, right.

MR. SILBERFELD: Okay. Well obviously you can't answer that question without divulging what you said, so we'll defer that question for trial.

MR. GINDER: Well you asked if he gave a report to somebody. I believe the report was actually provided to you, counsel, and in the context of this litigation.

MR. SILBERFELD: I didn't mean his Expert Report --

(Reporter interruption.)

MR. SILBERFELD: I did not mean his expert report. I meant an oral or written report based on his review of the documents, --

MR. GINDER: I --

MR. SILBERFELD: -- but I won't acquiesce on the objection or the discussion, I just tell you I'll defer it till probably tomorrow.

MR. GINDER: Understood.

MR. SILBERFELD: And it may be necessary to call the Court, and if that becomes necessary --

MR. GINDER: I can get you the number of

you need it.

MR. SILBERFELD: I bet you can.

BY MR. SILBERFELD:

Q. What happened after you finished your review of the BW, B.A.T. documents? What was the next thing you did?

A. I met -- as I mentioned to you, I don't remember whether it was after I finished all of these documents or in the process of my looking and reading the documents, I met with -- I believe I met with Mr. Nims and Mr. McDonnell.

Q. And as a result of that were you asked to do some further work?

A. Some further work, that's right, I was asked to do some further work along the same frame of reference.

Q. Answer the same questions?

A. Same question.

Q. About a different set of documents?

A. That's correct.

Q. What documents?

A. Documents from -- that originated in Philip Morris, I believe.

Q. And did you perform that task?

A. Yes.

Q. And did you reach an opinion about that?
A. Yes.
Q. With respect to the criteria in mind that you told us about earlier what is your opinion about the Philip Morris documents that you saw?
A. It was the same opinion.
Q. That there was nothing in the documents that represented research or data?
A. That represents research or data denoting or demonstrating significant breakthroughs in -- in our understanding of, quote-unquote, "nicotine dependence or nicotine addiction" that was not communicated to the public, and I mean now the academic public.
Q. Uh-huh. Was there material in the Brown & Williamson and B.A.T. documents that represented research and data on nicotine dependence?
A. No.
Q. None?
A. No, not to my knowledge, no.
Q. Was there documents in the Philip Morris materials that you were provided that represented research and data on nicotine dependence?
A. There -- there was one document that related to -- that had data addressing the question whether nicotine is dependence-producing and it concluded it

was not.
Q. Which document is that?
A. It's a document, it's a -- a paper by -- that was a -- a paper by Victor Denoble & Associates, I don't recall the name of the associates at this point, but the senior author was Victor Denoble, that I believe was submitted for publication but was not published which addressed that question and concluded that it was not dependence-producing.
Q. With respect to that Denoble papal -- paper how did you determine whether that paper represented an advance on what was known in the medical and scientific community?
MR. GINDER: I'm sorry, I couldn't hear the question. Could you read it back, please.
(The record was read by the reporter.)
MR. GINDER: Thank you.
A. I had difficulties with the paper by Denoble. Despite the fact that he claimed something that I believe, and this is that nicotine does not produce dependence, my difficulty stemmed from the fact that his data is -- I believe at serious odds with what is my sense of the rest of the literature.
Q. What does that mean?
A. He claimed that he got self-administration of

nicotine, intravenous self-administration of nicotine by animals. Since I believe that at this point in 1997 when I read that document nobody to my satisfaction demonstrated that, that was prior to the appearance of the paper by Shoaib, I was puzzled about -- about that, and since I felt that the paper was lacking in detail that will allow me to -- to evaluate whether this is -- whether this -- the claim of observing nicotine self-administration is genuine or -- or significant or not, I have contacted again Mr. Nims and asked him whether I can get some more information to substantiate the claim by -- the claim that was contained in that paper.

MR. GINDER: Okay. Excuse me, Doctor, I'm going to remind you that with respect to substance of your communications with counsel you should not talk about the substance of those communications.

THE WITNESS: I'm sorry. Okay.

MR. GINDER: Could you read back the answer as far as it went though, please.

(The record was read by the reporter.)

MR. GINDER: We would again assert work product privilege with respect to going into the substance of the communication by counsel.

BY MR. SILBERFELD:

Q. With respect to the Denoble paper, you were asked to evaluate along with the other papers that you got whether that paper made a significant new contribution to what was known in the world medical and scientific literature; true?

A. Yes.

Q. And you did that in part by reading the paper.

A. Yes.

Q. And drawing upon your own memory and knowledge about what's in the literature.

A. That is correct.

Q. And you evaluated the paper critically.

A. Yes.

Q. Did you at any time do any research such as Medline or Index Medicus or anything else to determine whether what Denoble was writing about was new?

A. No.

Q. Did you over the course of the last three years, Dr. Amit, collect a library of sorts of various medical articles that you found significant or interesting to you about nicotine and dependence?

A. Yes.

Q. About how many total articles do you have now, on this subject?

A. With or without those that were confiscated by the court reporter?
Q. Leave the court reporter and his or her felonious intent aside.
A. Dozens. I -- I really can't answer that, but dozens.
Q. A hundred?
A. It would -- yeah, it would be probably up to a hundred.
Q. Give or take, a hundred?
A. Give or take, yes.
Q. Did you go look at the hundred papers to see whether or not what Denoble was writing about was new or significant in terms of advancing science?
A. I went to look at the papers yes.
Q. Which ones?
A. Mostly Corrigal and Goldberg. And again, when I say Corrigal or Goldberg, it's always with some associates.
Q. Yes.
A. But when I say the name I consider that a significant author in that -- you know, in that group, so mostly Corrigal and -- and his work and -- and Goldberg.
Q. And then, without getting into the substance at

least for today, you reported your findings from having looked at the Philip Morris documents back to someone? Yes or no is all I want.

A. Yes.

Q. And after that time were you asked to do some additional work?

A. I had an opportunity -- I'm trying to walk here without -- you know, without --

Q. You can say yes or no to that one.

A. -- causing --

Q. Were you asked --

A. Sure.

Q. Were -- were you asked to do some additional work?

A. Yes.

Q. By whom?

A. By Mr. McDonnell.

Q. What did you do?

MR. GINDER: Okay. Just a second.

(Discussion off the stenographic record.)

MR. SILBERFELD: Do you guys want to have a powwow?

MR. GINDER: Just a quick break. I wasn't in on all the meetings you're referring to so --

MR. SILBERFELD: Counsel.

(Recess from 2:52 to 2:57 p.m.)

MR. GINDER: Counsel, what -- you've been asking some questions that sometimes get into what I believe are work product areas concerning the substance of communications that Dr. Amit may have had with counsel. There are other areas that I've said, concerning such things as the time or place of meetings or where meetings might have occurred, whatever, that -- or that aren't privilege and I'm not asserting a privilege on that. And it's kind of a fine line. You also are going to be able to ask him and he's answered questions about what his charge was, and we'll let him go into that, but we're -- we're not going to be answering questions about the substance of communication that they may or may not have had in addition to that, so I think if you read back the last question you might see where that question falls in this continuum.

MR. SILBERFELD: Well before doing that, let me just indicate my problem with it.

MR. GINDER: Sure.

MR. SILBERFELD: I don't want to hear at the time of trial that Dr. Amit did work that was a lark on his part. The only way I can connect the work that he did, the research that he did, the

reviews that he did, to this case is through counsel, those are the only people he's apparently met with, and so the reason I asked is not because I have a lurid curiosity. The reason I ask I because I want to know --

MR. GINDER: You're not denying it?

MR. SILBERFELD: I'm not denying I don't have lurid curiosity, but certainly not about this subject. I need to connect his conduct and what he does to this case in some fashion. The only way I can do that is through counsel.

MR. GINDER: And I think that is an area that I don't think falls in the area that I'm talking about. When you're asking him what his charge was, what were you asked to do and what did you do, I'm not asserting any kind of privilege on that, but I'm just trying to caution the witness that, you know, there's -- at the mentioned meetings with different lawyers that I was not at that with respect to communication, substantive communications, which is the same thing your office has done with your experts asserting the privilege, I don't think he has to answer questions if you pose them about that, but in terms of saying what was your charge, you know, what were you asked to do, what -- did you get documents,

what did you review, I think that's fair.

MR. SILBERFELD: Okay. We'll -- we'll press on.

MR. GINDER: Okay.

MR. SILBERFELD: You'll get excited if you want to.

MR. GINDER: Well I haven't yet, and neither has anybody else, so we're doing well.

BY MR. SILBERFELD:

Q. Dr. Amit, after the review of the initial set of Philip Morris documents did you do some further work?

A. Yes.

Q. And what were you asked to do?

A. To look at some more documents with regards to Denoble, Denoble paper.

Q. What documents were those?

A. It was a -- there were two documents, I believe -- no, there were actually I think three documents. One was, I believe, a report, an annual report of the Department of something like Behavioral Pharmacology to their supervisor, okay, and that report was signed, I believe, by Denoble, so I am -- I assume, although I have no evidence to substantiate, that he was the head of that research department of behavior pharmacology.

Q. At what institution?
A. In Philip Morris.
(Comments off the stenographic record.)
Q. Go ahead.
A. So that was one document. The other one was again a summary of the research activities, that research group, department, laboratory, I don't know what they're call officially, but that group because it certainly referred to work of more than one person, and then I have seen a part of a deposition by an individual that was involved in the research activities in Philip Morris.
Q. Who is that?
A. A woman by the name of Carolyn Levy, I believe.
Q. Did all three of those types of documents assist you in any way in forming any further impressions or opinions about the original Denoble research paper that you had seen?
A. Yes, they did.
Q. All right. What did they do to assist you?
A. They raised some serious doubts about the credibility of this paper sufficiently that I in my own head, refused in my head to incorporate it as part of the data that I -- or the literature that I believe is relevant to the question of,

quote-unquote, "nicotine dependence and/or addiction".

Q. How did the three additional things; the annual report, the summary of the research group, and the deposition excerpt of Miss Levy, assist you in determining that the paper's credibility; that is, the Denoble's papers credibility --

A. Yes.

Q. -- was in doubt?

A. You will have to separate between the deposition by I believe it's Dr. Levy, although I'm not a hundred percent sure, and between the -- those reports and summary of activities that were again, I presume, written by Dr. Denoble.

Q. Uh-huh.

A. So let's talk first about the work by -- that was signed or written by -- by Dr. Denoble, describing actually the research activities that led to the writing of the paper to psychopharmacology, that was submitted to psychopharmacology. There were three very serious problems with this -- with this research project. One of them I find very difficult to -- to interpret; the other two I find difficult to -- to -- less difficult but I find them puzzling.

Q. What are they?

A. The first -- the one that I find difficult is that Dr. Denoble in both the report to his superior on the activities that I call the annual report and in the summary, let's call them -- one I'll call them an annual report and the other one a summary -- in both of them he says that in their preparation all the animals in the experimental group learned to self-administer nicotine. I find that a very difficult statement to -- to accept because to my knowledge there isn't one single study in self-administration of anything, any substance, that I know of that is self-administered by animals that all the animals, without any exception, learn to self-administer; not cocaine, not opiates, not alcohol, not amphetamine, give you results of self-administration where every single animal in the group learned to self-administer.

Q. So -- let me just stop you.

A. Fair enough.

Q. Because I know this is going to be a very long answer.

A. Yes, it will be.

Q. You will be able to go on, I'm sure.

A. Okay.

Q. With respect to that, in the annual report or

the summary Dr. Denoble makes this statement about all the animals learning the behavior of self-administration.

A. That's correct.

Q. And you have doubt about the truth of that statement.

A. That's correct.

Q. Serious doubt?

A. Serious doubt.

Q. That doubt about that statement causes you to question the validity of the research report that you reviewed earlier; is that how this is working?

A. No. It worked actually in reverse.

Q. Oh.

A. I first read the paper that was pur -- purportedly submitted -- not purportedly, submitted to psychopharmacology.

Q. Right.

A. All right. That paper claims, first of all without giving the details of how many animals learn had to self-administer, that is not included in that -- or to my recollection that -- to my recollection that fact was not included in that paper, that by itself I don't fault that because we don't always in a research report include that, but it claimed that

it got self-administration of nicotine by animals, that was the purpose of that paper. I found that, having the advantage of reading it in 1997, about 14 or 15 years after that research was done, and during a period during which a lot of research in this area was done and nobody was able to achieve what Dr. Denoble achieved, I have some doubts to begin with.
Q. Yes.
A. Then when I read -- when I read these documents and he then claimed that all the animals learned to self-administer, my doubt about that increased.
Q. Was heightened?
A. Heightened, that's a good word. Yeah.
Q. When was the paper that was submitted for publication, what year was that?
A. I think either 82 or 83.
Q. When was the annual report that you saw?
A. 82 or 83.
Q. Same time frame?
A. Same time.
Q. And the summary of research was the same time frame?
A. Same time frame. I cannot tell you -- Yeah. Okay.
Q. Is Dr. Denoble dead or alive?

A. I believe he's alive.
Q. Did you ever ask to speak to him about this?
A. No.
Q. It was a matter of some considerable curiosity to you whether in fact all the animals had learned this behavior?
A. It was a matter of some curiosity, yes.
Q. And you've come to the conclusion based upon your own experience, I take it, that that could not possibly be a true statement?
A. No, I've said my skepticism about that, to use your word, "heightened". I'm not prepared to say that I have now definitive evidence that that's not possible, okay. I -- I try not to make such statement, --
Q. Uh-huh.
A. -- but certainly I have explained first why I had doubts when I read the paper that was submitted to psychopharmacology, I explained to you, and I've said that when I read both the summary and the annual report my doubts about that heightened.
Q. You mentioned that there were three problems. One was the statement in the annual report.
A. And the summary about all these, yeah.
Q. Was that one and the same or is that one and

two?
A. No, no, no, that's one and the same.
Q. Okay. What's the second problem?
A. The second one is that -- I will need to elaborate on that. If Dr. Denoble's statement that all the animals learned to self-administer unprecedented by any other finding in self-administration that would mean that nicotine is an extremely pervasive and powerful reinforcing agent so conducive to the development of self-administration; therefore I find it now even further increasingly puzzling that he was reporting in that -- in that summary and -- and annual review that when you use schedules of reinforcement or -- or what you referred to in an earlier part of our conversation intermittent administration, that animals in his study self-administered nicotine did not administer nicotine beyond the FR8. That's a low level of self-administration; nicotine will support an FR32, even 62.
MR. McDONNELL: You said nicotine, Doctor.
THE WITNESS: Did I? I'm sorry. Cocaine. I'm sorry. Cocaine will support.
MR. SILBERFELD: Do you want to swear him?
MR. McDONNELL: No, I'm just listening.

Reminding.

A. Cocaine will support FR32, even 64. Alcohol will support FR32 and so on. And yet Dr. Denoble reports to us that -- that his animals will not self-administer beyond an FR8. That's -- that's a -- a -- seems to be a contradiction. On one hand he reports that all the animals learned, that's a very -- indication of a very powerful self -- self-administering drug. On the other hand, they will not learn beyond or will not work for it beyond FR8, which indicates a very weak effect. These are not -- to my mind they are hard to reconcile. The third -- so that's the second factor.

The third factor was that it took his animals a long time to learn that self-administration; if I remember correctly, somewhere in the order of 24 days of daily sessions. In fact I will correct myself because I believe that he was not using session, he was using continuous access to this, 24 hours, 24 days of 24 hours a day of access to the reinforcing apparatus. With regards to alcohol, with regards to cocaine, with regard to opiates, you can get animals to self-administer in 4 days, 5 days, 7 days, and yet it took here 24. So here is another indication that even if we accept the fact that -- that animals are

self-administering nicotine, that it's a weak reinforcer. Well if it's a weak reinforcer now on two counts, both in terms of the schedule and in terms of the days to learn, then it's difficult for me to understand how is it that he got all animals to self-administer, which is an unprecedented, as I said, phenomenon in the self-administration literature.

Q. What role did the deposition excerpt of Dr. Levy play in all of this?

A. She raised -- she described incidents that raised some serious question about the integrity of -- of Dr. Denoble's research practices.

Q. Who is Dr. Levy?

A. I believe that at the time she was his research supervisor or she was a -- a functionary within the research operation of -- of Philip Morris, I believe.

Q. And when was the deposition testimony?

A. I don't know.

Q. You don't know the date of it?

A. No.

Q. How much were you provided?

A. Roughly speaking, I would say about 15 pages.

Q. By whom?

A. By Mr. McDonnell.

Q. Did you ask to see the rest of it?
A. No, because it looked in the end of the deposition that they were shifting to another subject so I assumed that that was the end of -- of what was there and I didn't ask for -- to see anything else.
Q. And in the course of the testimony excerpt that you read, Dr. Levy was somehow critical of Dr. Denoble; is that the essence of it?
A. That's the essence of it.
Q. What were the criticisms?
A. She described complaints that she got from a woman that was working in the -- in that group, the research group, who complained to -- to her, asked her what to do about the fact that she felt that Dr. Denoble was doing unwarranted things.
Q. Such as?
A. Such as continuing to work with animals whose catheters are leaking, baiting the lever that was delivering nicotine, and over-feeding the control group that were pressing for saline.
Q. And referring now to the testimony of Dr. Levy, did she say that there was some concern about scientific integrity about those things?
A. Yes. She said that she told that young woman to -- gave her a name and I can't recall now the name

of who to complain to about -- or report that to.
Q. Having read that yourself, did you come to the conclusion that that was a scientific integrity issue?
A. I have no way of knowing whether this is true or not.
Q. Assume that it -- assume that it's true, assume that it happened.
A. That's a very serious question about scientific integrity, but as I said, I don't -- I mean if we assume that every word in that deposition is true, that is a very serious violation of scientific integrity.
Q. Because that would have the tendency; would it not, to give false readings?
A. Of course.
Q. False results?
A. Sure.
Q. Falsehood in general?
A. Sure.
Q. Yeah. And that would then, even though it was about one part of the total research project and experiment, that would call into question or cast serious doubt upon the entirety of the research project?

A. Well that was the -- from my understanding was -- since I did not see any evidence that they had done any other study with self-administration, strictly with self-administration of nicotine, I would assume that that is referring to -- I have assumed that that is referring to data that was then presented in the paper to psychopharmacology.
Q. So a falsehood in one area calls into question falsehoods generally --
MR. NIMS: Objection.
Q. -- or the entirety of someone's work in a particular area in general?
MR. NIMS: Objection.
A. I can't answer that.
Q. Well that's the conclusion you reached about this.
A. The conclusion that I reached is that that project about which Dr. Levy was commenting in her deposition, --
Q. Yes.
A. -- that project was called into serious question, that specific project. Whatever it -- it doesn't -- in my mind I am not prepared to extend it anywhere beyond that.
Q. Okay. Then after you got these additional

documents about Denoble were you asked to do anything else in connection with this litigation?

A. I don't believe so.

Q. So at some point you wrote an expert report; right?

A. Yes.

Q. Other than looking at --

A. I have to correct it.

Q. Go ahead.

A. I -- and I do not think I mentioned that in my Expert Report. At the time I did not -- I believe I did not see that, but since I wrote the Expert Report I also was asked to look at some documents that were also examined by Dr. Hurt.

Q. Okay. Just in terms of categories, you looked at some Brown & Williamson and British American Tobacco documents.

A. That's correct.

Q. Some Philip Morris documents.

A. That's correct.

Q. Some additional Philip Morris documents that related to the work of Denoble.

A. Yes.

Q. Some records or documents that Dr. Hurt found significant.

A. I don't know if he found it significant or not.
Q. He referred to them.
A. He referred, yeah, yeah.
Q. And then you told me that you collected roughly a hundred or so, maybe more, maybe less, articles from the medical literature over the course of the last three years.
A. Psychopharmacological literature.
Q. Yes.
A. I -- I have difficulties with "medical" because they're not really medical.
Q. Have you done anything else other than those four categories of things? You've looked at those things, and you've written an Expert Report. Have you done anything else in connection with the preparation of your thoughts and impressions for this case?
A. I don't believe so.
Q. Okay.
A. I may have forgotten something, but I don't believe so.
Q. Okay. Have you talked at any time with any other expert in this case?
A. No.
Q. Have you talked with any other expert in any

case?

A. No.

Q. Having to do with tobacco litigation?

A. Well, yeah, okay. Maybe unwarrantedly I assumed that. I assumed that that's what you were referring to.

Q. All right?

A. No.

Q. You've prepared this report that's dated June 30. When was it first started, the report?

A. When did I start to work on that report?

Q. Yes?

A. I don't remember. I would say -- I don't remember.

Q. More than 30 days before you signed it?

A. Could be.

Q. Is it all your work?

A. Yes.

Q. Was any draft of it reviewed by any lawyer?

A. No.

Q. Did you submit it for review or consideration to any lawyer before you signed it?

A. No.

MR. NIMS: Can I talk to the witness a minute?

MR. SILBERFELD: Sure.

(Brief recess at 3:20 p.m.)

THE WITNESS: Mr. Nims just reminded me that it was at a certain point when I presented the -- the -- my report it contained some comments on the expert --

MR. NIMS: There's -- there's a question as to whether there was a draft and whether you submitted to attorneys.

A. I did submit a draft and I was -- and made one change in the -- in the -- in the report. I took out something out of the report. Other than that I haven't changed that.

BY MR. SILBERFELD:

Q. What'd you take out?

A. Comments about the expert report of Dr. Hurt.

Q. Where are those comments? Have you kept them somewhere?

A. No, I worked on a computer, and I have not printed anything, and I do not -- I don't know where -- I mean --

Q. Is that version saved in the computer?

A. It could be, yes. I will have to check it. But it could be.

Q. Why did you remove that paragraph?

MR. GINDER: You tell me, if you've got an objection or not.

MR. NIMS: Having gone into it --

MR. GINDER: Well I don't think we've waived anything at this point. Again I'd caution the witness not to reveal the substance of communications with counsel. If you can answer that question without doing that, you may do so.

BY MR. SILBERFELD:

Q. The question is: Why did you remove it?

A. I removed it because following that conversation I did not feel that that was relevant to my report.

Q. What was the comment that you were making that was removed?

A. My -- now I don't know whether I can answer or not.

Q. Everybody is being quiet; you can answer.

A. Okay.

MR. GINDER: Well, tell you what, you're going to be back tomorrow. I think there's an issue right now that's under discussion or maybe has been determined about the substance of any drafts, substantive changes not being properly inquired into, and maybe you could check with your office tonight and I'll do the same, pick that up tomorrow.

MR. SILBERFELD: Sure. Don't answer that question.

THE WITNESS: Okay.

BY MR. SILBERFELD:

Q. Have we identified, Dr. Amit, all the lawyers that you've had any contact with with respect to tobacco litigation; Mr. Nims, Mr. Gale, Mr. McDonnell?

A. No. There was in the -- in one of the cases that I discussed with you, I believe the -- the Burton case, I also met with a lawyer by the name of Marple, I believe.

Q. I mean in connection with state cases, --

A. No.

Q. -- such as this one?

A. No. That -- that's -- these are all the lawyers that I -- that I've had contact with.

Q. Have you had any contact with any Minnesota lawyers representing the tobacco industry?

A. No. Unless the -- no, no, I -- no.

Q. What's the total number of hours you've spent in connection with this project having to do with the state cases, not the personal injury cases, since you first met Mr. Nims three years ago?

A. Oh, I -- I.

MR. McDONNELL: Did you say -- did you say three weeks ago, counsel?

MR. SILBERFELD: I said three years ago.

MR. McDONNELL: I'm sorry. I misheard you.

A. I don't know how to answer that.

Q. Well do you keep track of your time somehow?

A. Well I would have to go back and look. I can't. Without consulting with my -- my notes, I would not be able to -- unless you want really -- no, I --

Q. Well is it more than a hundred hours?

A. It was more than a hundred hours.

Q. More than 500 hours?

A. No, I don't think so.

Q. Somewhere between 100 and 500?

A. Well, yeah, if you want, yeah, it would -- it would fall somewhere between -- between that. Closer to a hundred or closer to 500 I can't -- I can't answer.

Q. And is your arrangement with counsel that you bill by the hour for your time?

MR. GINDER: Counsel, there -- there is an agreement with your office on letterhead from your office that there will not be inquiry into

compensation of experts.

MR. SILBERFELD: I'm not inquiring into that. I'm inquiring into whether he's getting paid by the hour, not what the hourly rate is. I want the total number of hours.

MR. GINDER: I don't know I guess. The correspondence I'm referring to is a letter from Roberta Walburn of your office dated August 25th, 1997 stating that neither side will inquire into the compensation of experts, and I guess inquiring about that is inquiring about the compensation of experts. Now if there's a difference, if you want to check with your office about whether that includes manner of compensation, but right now it says compensation.

MR. SILBERFELD: Okay.

MR. GINDER: And I think that covers it.

MR. SILBERFELD: Okay. I'll defer it for now.

MR. GINDER: Okay.

BY MR. SILBERFELD:

Q. Have you at any time, Dr. Amit, talked to any researcher or scientist for any tobacco company about what they knew and when they knew it having to do with nicotine and its effects?

A. No.

Q. Have you asked to do that?
A. No.
Q. Have you reviewed any original data, lab notebooks or any such thing from any tobacco company other than the documents you've described to us?
A. No.
Q. Is your work complete as you sit here today in this case?
A. No.
Q. What's left to do?
A. I was told that I may be given some more documents that were examined by Dr. Hurt that I haven't seen.
Q. At some point in time you were given some documents Dr. Hurt reviewed or relied upon in some fashion?
A. That's correct.
Q. How many documents were those?
A. Roughly speaking, 60, 70, but that's -- that's a ballpark figure.
Q. And you're under the impression that you're going to be given some more?
A. That I may be given some more. I was not told that I will be.
MR. NIMS: I can represent it's certainly

my intention to provide him with -- with all of the Reynolds documents that Dr. Hurt made reference to in his deposition.

MR. GALE: Same for the --

(Reporter interruption.)

MR. GALE: Same for B&W documents and B.A.T. documents.

MR. McDONNELL: You haven't heard a word out of me. You're too mean to me when I do talk.

BY MR. SILBERFELD:

Q. Other than that possible future work, is your work complete?

A. To the best of my understanding, yes. If there will be another request, I will have to evaluate, but relevant to my area of expertise and meaningful in terms of testimony that I may give, but to my understanding with the exception of these documents I believe that I have completed my work. Again with the exception of another thing is that I intend to follow -- continue to follow the literature until the -- the trial begins and -- and so that if there are any new developments from now till whenever the trial is going to be I will be abreast of it.

Q. Your CV references your membership in a number of -- of professional associations. Does the

American Psychological Association have a position on whether or not nicotine is addictive?

A. Yes, they do.

Q. And what is that position?

A. That it is.

Q. And do you disagree with that?

A. Yes.

Q. Does the Order of Psychologists of Quebec have a position on whether or not nicotine is addictive?

A. Not to my knowledge.

Q. Does it have a position on whether nicotine is dependence-producing?

A. Not to my knowledge.

Q. They have not taken a position any way?

A. Not -- yeah, not to my knowledge.

Q. Does the Canadian Psychological Association have a position on that subject?

A. Not to my knowledge.

Q. How about the Society for Neuroscience?

A. Not to my knowledge.

Q. The Israeli Psychological Association, does it have a position?

A. Not to my knowledge.

Q. How about the New York Academy of Science?

A. Not to my knowledge.

Q. Are you familiar with the Surgeon General's 1988 Report on Nicotine Addiction?
A. I can't tell you that I read every page of this report.
Q. You should have because I did.
A. Well I really admire you. My patience doesn't -- doesn't last that long. But I am familiar with the essence of what the Surgeon General report said about what they called addiction to nicotine.
Q. On page 7 of the report -- I'll put this in front of you -- there are the three primary criteria for drug dependence. Do you see those, sir?
A. Yes.
Q. You're generally familiar with those?
A. Yes.
Q. Do you agree with them?
A. As criteria for drug dependence in general?
Q. Yes, sir.
A. Yes, yes, I would agree with that, sure.
Q. Do you agree that the terms "addiction" and "dependence" are used in current-day language synonymously by health professionals?
A. I will agree that some of them used that synonymously and mistakenly in my opinion. Including the Surgeon General.

Q. How about the American Psychiatric Association, do they use the terms synonymously?
A. Depends in what. In -- in their scientific and data-driven publications, no.
Q. How about in their position statements?
A. Position statements they did.
Q. And in -- and how about the American Medical Association, are you familiar with their position?
A. Yes.
Q. And what is it?
A. They also believe that it is a synonymous -- I believe that they believe that that is a synonymous statement.
Q. Well they say nicotine is addictive.
A. They use altogether the word addiction quite freely and without -- it doesn't give them any difficulties obviously.
Q. At the present time does --
A. Yes.
Q. -- Concordia University have any form of smoking cessation program as part of perhaps a hospital affiliation?
A. No, but I should qualify to say that Concordia is one of the poorer universities that doesn't have a medical school, so if they had it, it would have to

be in their student counseling or student -- this -- but to my knowledge they don't.

Q. Does McGill have such a program?

A. I don't know. I don't know.

Q. McGill is where you got your Ph.D.

A. That is correct.

Q. It's in the same city?

A. Yes, and quite close in physical proximity.

Q. To your knowledge no one from McGill has ever consulted you about a smoking cessation program over there?

A. About?

Q. Starting one.

A. Instituting, starting one, something like that?

Q. Or being a part of one?

A. No, no. But somebody from McGill consulted me for help to -- to quit smoking, but not -- not in terms of helping, to establish, develop or start a smoking cessation program.

Q. I mentioned my interest in baseball earlier.

A. Yes.

Q. Why did the Montreal Baseball Club give you $25,000 in 1985?

A. Because I was a consultant to the Montreal Expos.

Q. For what?
A. I was part of their EAP, the Employee Assistance Program.
Q. Substance abuse?
A. Mostly, yes.
Q. Uh-huh.
A. Yeah.
(Comments off the stenographic record.)
A. Luckily we didn't say even one word about tobacco. Despite your interest in baseball, it was a miserable experience.
Q. Do you agree with the statement that every expert organization that has commented upon whether nicotine is addictive has concluded that it is?
A. No.
Q. Do you agree or disagree with that statement?
A. I strongly disagree with the statement because, first of all, there are organizations that in their -- again, as I said, not in position papers, but in their data- and research-driven publications will not use the word "addiction" consistently and I refuse to believe that it's without a reason.
Q. Do you agree or disagree with the statement that all leading expert and public health organizations in the United States and the international community

with expertise in tobacco and drug addiction recognize that nicotine is addictive?

A. We will come back to the same thing. The World Health Organization doesn't use the word "addiction". The American Psychiatric Association doesn't use the word "addiction" in their -- again I repeat what I said, in their substantive publications. I'm referring of course to the DSM IV or the DSM system by the American Psychiatric Association or the ICD by the World Health Organization they don't use the word "addiction".

Q. They use the word "dependence"?

A. That's right.

Q. And they use the term synonymously with addiction?

A. I don't know that. They don't say that in the DSM.

Q. Are you aware of any studies that have been published that represent surveys of research scientists who were funded by the tobacco industry and their views about whether nicotine is addictive?

A. Would you ask the question again?

Q. Sure.

Would you repeat it.

(The record was read by the reporter.)

A. I was going to say, can you explain what you mean by "surveys"?
Q. Sure.
A. Okay.
Q. An author goes out and asks tobacco industry scientists, scientists who receive funding from the tobacco industry, whether they believe that nicotine is addictive, they ask a number of such people, the people answer the questions, they publish the results. That's what I mean by a survey.
A. Okay. Now I understand your question.
Q. Okay.
A. I don't know of anybody that received funding from the tobacco -- no, I'm sorry, I have to correct that. I know of one person in the world that I know for a fact received funding from the tobacco industry. It's one of my colleagues.
Q. Who is that?
A. Dr. Roy Wise. And that's all. So no, so I'm not aware of -- at two levels I can answer the question: I'm not aware of such a survey, and I am not aware of who are the scientists that were funded. Except for Dr. Roy Wise, I am not aware of anybody who was funded by the tobacco industry.
Q. Are you familiar, Doctor, with the Fegerstrom

test for nicotine dependence?
A. I'm familiar with it, although I can't tell you that I can recite the -- the questionnaires and all this that are involved in it.
Q. Have you ever used it --
A. No.
Q. -- in the course of your work?
A. No.
Q. Why not?
A. Because I don't -- as -- I think to be completely clear here, my theoretical framework, frame of reference is very different than the one of Fegerstrom's and therefore I -- and since I don't know -- and I don't really know how the Fegerstrom test was developed or -- and validated and how reliability was established, and since I have some basic question about that I am not -- I don't use it, and besides, as I mentioned to you, in the last few years, I have not done a lot of work directly with people that are in need of, say, help in smoking cessation or anything like that.
Q. I didn't mean to limit my question just to smoking. My question was --
A. The Fegerstrom test.
Q. Yeah, just for dependence generally.

A. The Fegerstrom test is not used for dependence generally.
Q. How many compounds in cigarettes are pharmacologically active?
A. I will need to hear the question again.
Q. How many compounds within cigarettes or the smoke emitted from cigarettes are pharmacologically active?
A. I have no idea.
Q. Would that be of interest to you in terms of knowing whether cigarette --
A. Only --
Q. -- smoke or smoking is addictive or dependence producing?
A. Only if I saw some evidence that a component of the tobacco smoke or -- you know, is participating in the process of the dependence on smoking; then it will be of interest to me.
Q. Have you looked at that issue at all yourself?
A. No.
Q. Nicotine is an alkaloid?
A. Nicotine is an alkaloid.
Q. Are there other alkaloids in cigarettes?
A. I believe there are other alkaloids, yeah, but I'm not sure. I'm not even sure about that.

Q. Are -- to the extent there are other alkaloids are they pharmacologically active?
A. I'm not aware of -- I'm not aware of other alkaloids that are psycho -- I mean psychopharmacologically -- pharmacologically active, no. I'm aware of -- no, I'm not aware.
Q. Do you know that the tobacco companies had formulas of the contents of the ingredients in their cigarettes?
A. I don't know that for a fact, but I have no reason to doubt you.
Q. Have you asked to see those?
A. No. No.
Q. Have you been shown any formula documents?
A. No.
Q. Are any of the compounds in tobacco smoke carcinogenic?
MR. NIMS: Objection.
A. That is not my area of expertise and I'm not going to answer that. I don't -- I'm -- not because I refuse, but because I'm not competent to answer that.
Q. What is side-stream smoke?
A. I haven't got a clue.
Q. What's secondhand smoke?

A. Secondhand smoke I believe I understand is the absorption of smoke or smoke constituents by people who are in proximity to another person who smokes and the smoke that is exhaled by that is absorbed by them under -- under those circumstances.

Q. Can that have health effects; --

MR. NIMS: Object --

Q. -- that is, secondhand smoke inhaled by others?

MR. NIMS: Objection.

A. That is not my area of expertise. I am not competent to answer that.

Q. In reviewing the BW and B.A.T. documents on the one hand and the Philip Morris documents on the other you said that part of your charge was to determine whether the research provided anything new or significant to the scientific community. Do you recall that?

A. With regards to dependence and -- and addiction.

Q. Yes.

A. And/or, quote-unquote, "addiction," yeah, yeah, that -- sure.

Q. Okay. Did you at any time compare the findings or the conclusions in the company documents you saw with the public statements being made by the tobacco industry about the health effects of smoking or

whether nicotine is dependence-producing or addictive?

A. I'm not familiar with the public statements that were made by the industry about tobacco, so I -- I am not -- I'm not in a position to -- to make that comparison. I don't know what's the public stance of this on very -- on very -- on every issue.

Q. How about on any issue?

A. If you will ask me I will tell you whether I am aware of it and whether I'm -- I'm able to evaluate it.

Q. Okay. Do you know whether any tobacco company has publicly stated that there is no proven relationship between smoking and disease?

A. In general?

Q. Yes.

A. No, I'm not aware of that.

Q. Or whether cigarette smoking and the nicotine in it is addictive or dependence-producing?

A. Whether the tobacco industry made a statement about that?

Q. Public statement about that.

A. No, I can -- I can only tell you that in Canada on the packages of cigarettes it says in Canada that -- and the health warning is that cigarettes are

addictive, so if that is a -- so that's published on -- on I think fifth of the -- the packages, because I think that there are to my knowledge five different health warnings in Canada on the cigarettes and one of them is cigarettes are addictive, so in that sense they have taken a position that cigarettes are addictive, I assume, although how these statements came about I don't know, but that is a fact, that is what I know.

Q. So you don't know as you sit here today whether those statements are on the packages of Canadian cigarettes because the companies put them there voluntarily or because the government forced them?

A. Yeah, I don't know that. I don't have any evidence to that effect.

Q. But one of them -- one of the statements is that cigarettes are addictive?

A. That is correct.

Q. And has the Canadian government concluded that as far as you know?

A. I'm not aware of any public statement made by the Canadian government on that, but I would strongly suspect that they have -- they are in favor of the position that cigarettes are dependence-producing.

Q. Or addictive?

A. I don't -- I'm trying to remember simply whether -- you know, what position they've taken on that divide between dependence and addiction, and I am -- it could be that they have used the term "addiction," yeah, and not "dependence," but I know that there are some documents that I have seen where they use clearly the word "dependence," so I'm not prepared to -- so both of them could very well have been in use by the -- by the Canadian government.

Q. And to the extent the Canadian government uses the term "addiction" you would find that to be wrong?

A. That's correct.

Q. The use of that term anyway?

A. That is correct. I find that wrong by anybody that, you know -- I find that irresponsible by anybody that uses that term.

Q. So whoever uses that term is being irresponsible?

A. I believe so. I believe so, yeah. This is my -- my -- my professional view.

Q. Would you agree with me that nicotine as being addictive, that that point of view represents mainstream science both in the North American community and in Europe?

A. Yeah, that it represents some individuals within

the mainstream, yes.

Q. Well it represents the mainstream and there may be people outside the mainstream that think differently?

A. That comes to -- now I have to answer what is mainstream? There are many people in -- in the mainstream that don't -- that I consider to be very much in the mainstream that do not subscribe to that view.

Q. In the course of your review of company documents did you see any advertising materials at all?

A. I don't remember.

Q. Or statements from marketing individuals?

A. I think I've seen statements from marketing individuals, yes, but I don't know that I've seen the -- it could be. I have read -- you know, I have looked at a lot of material, so it could be that I've seen some actual advertising material, but I do not recall that. Again, just to be -- to be absolutely precise, that is in relations to the U.S. tobacco litigation, not relate -- related to the work that I have done in 89 --

Q. Right.

A. -- with regard to the Canadian ad -- you know,

ad legislation or advertising legislation.
Q. That's correct, that's how I meant my question.
A. That's correct, yeah, I do not remember anything that -- you know, advertising material that I have seen.
Q. From the BW and B.A.T. documents on the one hand and the Philip Morris documents on the other that you've looked at, taken as a whole do you believe each company understood the health effects caused by their --
(Reporter interruption.)
Q. -- caused by their tobacco products?
MR. NIMS: Objection.
A. I can't answer that. I don't know. Again, I'm not sure that I understand, as I said to you on a number of occasions, you know, what are exactly the health effects of cigarettes? I'm not in a position to evaluate. I don't have even the tools to evaluate what they understood on the basis of the documents that I -- I read, and again, frankly speaking, as I told you before, that was not my area of interest or charge.
Q. With respect to the health effects would you say that a lay person in Minnesota any time in the last ten years should know what the health effects of

cigarettes are?

MR. NIMS: Objection.

Q. That they cause cancer and heart disease and so forth?

A. See, lay people use the word "cause" in a very different sense than I do. Causality is in my opinion one of the most difficult things to demonstrate. So -- and yet on the other hand you may agree with me that people in common parlance use the word causality in a very -- even I do that at times, you know, talking about, you know, the air conditioning caused me to -- to sneeze. This is a non-scientific use of the term "causation" -- you know, "cause". I have answered you as an individual, not as an expert, you know, that I believe that -- that tobacco smoking may have adverse health effects. Whether that is as a matter of causality, as a matter of indirect involvement, as a matter of synergism, as a matter of -- there can be many, many ways in which that kind of involvement would occur that is not necessarily causal. Now I'm not saying it's not. I'm just not very -- I don't have the -- the know-how and the competence to decide whether it's caused or not.

Q. It's an open question in your mind?

MR. NIMS: Objection.
A. It certainly -- it's certainly an unanswered question in my -- in my mind.
Q. An unanswered question?
A. Yeah.
Q. And as a result of that it would be reasonable; would it not, for the people of Minnesota to consider the health effects of smoking also to be an unanswered question?
MR. NIMS: Objection.
Q. Well they wouldn't know any more than you, would they, Dr. Amit?
MR. NIMS: Objection.
Q. Correct?
A. They wouldn't know -- there could be -- Minnesota is a great state, and I don't mean it lightly. I don't know -- I mean I'm sure that there are people in the State of Minnesota that may know as much as I do and even more. I do not consider myself as holding a pinnacle position, you know, in this area, so I don't know. But if you're saying would it be appropriate, I'm not -- I'm not in a position to tell the people of Minnesota what position to hold.
Q. Do you believe that a manufacturer of a product has a duty to understand from an ethical standpoint

the health effects of its product?

MR. NIMS: Objection.

A. You're asking me a moral question almost. It sounds like you're asking me a morality or moral question. I assume that there are some rules about that, but I would not like to comment on that because my expertise doesn't really -- again doesn't lend itself to making a statement about that.

Q. Well you commented earlier about the work of some scientists raising ethical questions. This is why I asked you this question.

A. With regards to my area of expertise. We were talking then smack in what I consider to be in the middle of my area of expertise.

Q. Well using that ethical barometer for purposes of this question, do you believe that a manufacturer of a product has a duty ethically to understand the health effects of that product?

MR. NIMS: Objection.

A. What do you mean by "a duty"? Is it -- are you talking about a what, a legal duty, a moral duty?

Q. An ethical duty.

A. An ethical duty.

Q. In the same sense that the researcher has an ethical duty not to cause harm to human subjects as

we talked about earlier.

A. Yeah, I would think -- I would think that a manufacturer should try to understand the health effects of his products, yeah.

Q. And to the extent that a manufacturer has undertaken that duty to understand the health effects of its product, do you believe that that manufacturer has an ethical duty to disclose what it knows about the health effects of its product?

MR. NIMS: Objection.

A. Now you're raising again a question that I am not in the position to answer because the -- the -- it -- it seems to me that the -- the rules with regards -- or that the -- you know, the -- the determination of that would -- would depend on all kinds of things related to -- to, you know, agreement between various manufacturers, the relationship between them, relationship between them and government. I don't know what determines -- what then determines the disclosure of data or information that they have. I have answered the first question. I believe, again as an individual, not as a scientist, because it doesn't relate to my area of science, that yes, I think that the manufacturers should. But what's the -- the obligation to

disclose, I can't -- I can't answer that.

Q. Have you ever done any work in the course of your career on warnings about the hazards of certain substances and materials?

A. No.

Q. I'm thinking of alcohol, for example.

A. No, no, no, I don't.

(Comment off stenographic record by Mr. McDonnell.)

Q. Have you ever been involved --

MR. McDONNELL: Excuse me. I'm tired.

MR. SILBERFELD: Yeah, I second -- I third that.

BY MR. SILBERFELD:

Q. Have you at any time participated in the writing of any warnings for alcohol or alcohol products?

A. No.

Q. Are you aware of the controversy in this country going on at the present time about whether or not the Food and Drug Administration should regulate or have control over cigarettes because of the nicotine in the cigarettes?

A. Yeah, I'm aware of that. I've heard about this -- this issue.

Q. What is your point of view on that?

MR. NIMS: Objection.

Q. Go ahead.

A. I think it should be clear that since I do not believe we have any -- at this point any clear -- again understanding the role of nicotine in the evolution and development of dependence on it, I don't see -- I don't see the -- the utility and advantage in -- in giving that authority or whatsoever it is to the FDA.

MR. SILBERFELD: Why don't we take five and then --

MR. GINDER: We can go till 5:00 today too, counsel. I --

MR. SILBERFELD: I know, but let's stretch for a little bit.

(Recess from 4:01 to 4:14 p.m.)

(Plaintiffs' Exhibit 658 marked for identification during the recess.)

BY MR. SILBERFELD:

Q. Dr. Amit, are you familiar with any smoking cessation statistics in Canada, specifically with reference to the relapse of smokers who attempt to quit?

A. I am familiar with some -- yeah, some statistics.

Q. Okay.
A. Not necessarily smoking cessation, but, you know, relapse, because they -- as you know very well, the vast majority of smokers that quit quit on their own, not -- not through smoking cessation programs.
Q. What statistics are you aware of that deal with relapse?
A. There is a -- a -- sort of a Canadian report that comes periodically, I don't remember exactly how often, that tracks smoking and quit attempts, things of that nature.
Q. Uh-huh.
A. I believe that it's published by Health Canada which is the Ministry of Health, Canadian Ministry of Health. I believe that it's published by them, so that's what I was referring to.
Q. What are the statistics, as best you can recall, on relapse?
A. It depends on one's definition of a relapse. The -- the -- about -- about half the people that attempt to quit smoking do not succeed on the first time and relapse back into smoking and require more than one attempt. I will have to add to the sources that you said. There is also a report that I believe I mention in my -- in my Expert Report by the -- I

believe that that's the equivalent to Health Canada in the United States, at the time the Department of Health, Education and Welfare, or Human Resources, whatever, the -- the report to Congress, their Second Report to Congress saying that -- about -- of the people that try to quit -- also their number is higher actually than the Canadian number -- they say that up to about 60 percent of the people succeed in quitting on the first or second attempt and the rest of course by implication do not, so the rates of relapse according to that report will be somewhere in the neighborhood of 40 plus minus some -- some percentage point.

Q. Your report mentions on page 5 that there have also been studies concerning the extent to which smokers compensate for changes in nicotine levels in the cigarettes. Do you recall that statement?

A. I would like to see that, but yes, I -- I think that I recall that.

Q. I've just marked it for you.

A. Yeah, okay.

(Witness reviewing document.)

MR. GINDER: What page are you referring to, counsel?

MR. SILBERFELD: Page 5, but they're not

numbered.

THE WITNESS: No.

MR. SILBERFELD: So you have to count to 5.

MR. GINDER: Okay. Are you starting with the cover sheet or the report?

MR. SILBERFELD: I'm starting with the Concordia University letterhead. Otherwise you'd be on page 6.

MR. McDONNELL: Counting by ones.

BY MR. SILBERFELD:

Q. When you use the word "compensate" there, what does that refer to? Let's just define terms.

A. That refers to two things. It refers to compensation in the amount of smoking when people shift from cigarette levels, one nicotine level to another, and to the amount of compensation that people do in their level of smoking in response to the application of nicotine that is delivered through other means like through a patch or through a gum or -- or things like that.

Q. Is compensation in a lay sense an effort by a smoker to get the same level of nicotine regardless of whether the nicotine in the product has changed? Is that one definition of it?

A. That would be one definition of it, yes.

Q. And the studies you refer to are which?
A. With regards to actual smoking; in other words, in compensating for different levels of nicotine I'm referring to a study by Stolerman and Jarvik that show that people don't compensate very well for changes in the nicotine level in -- in the cigarettes that are presented to them. With regards to the other nicotine deliveries like gum and patch and things like that I'm talking about a paper by Benowitz and I'm talking about a paper by Pomerleau. Pomerleau and Pomerleau is the --
Q. Pomerleau, P-o-m-e-r-a-e-u?
A. No. P-o-m-e-r-l-e-a-u.
(Reporter interruption.)
A. P-o-m-e-r-l-e-a-u.
Q. So tell me your opinion about whether smokers compensate in order to attain the same level of nicotine that they used to, do they or don't they?
A. Some say that they do and some say that they don't, so there is evidence for both. Now you're asking me.
Q. What do you say?
A. My sense of the literature is that compared to the ability of -- and I will talk now about drinkers, opiate users and particularly I will talk about the

animals -- I think that the ability -- my sense of the literature is that if there is any regulation of the compensation for nicotine it is significantly poorer than -- than with the other compounds that I just mentioned.

Q. In cigarettes do you believe smokers compensate in order to obtain the nicotine level to which their body is accustomed?

A. I said -- I -- since I did not do research on that myself I have to of course make sense of -- of the literature; in other words, my sense of -- of the literature and my sense of the literature is that first of all there is a discrepancy between views; there are some people who say yes, people compensate quite well, and there are some that say that people don't compensate well at all. My -- quite clearly I think by the nature of my comments to you, given that I don't believe in a major role for nicotine on the basis of our literature and research that I quoted to you, my inclination is to relate to those that say that nicotine is not compensated well, but -- but I am telling you that there are some people who say that it does.

Q. And you come down on one particular side on what basis?

A. As I said, on the basis of my view that -- that the importance of nicotine in -- in the smoking is less than what those people claim for compensation is.

Q. Well then do you believe smokers compensate at all regardless of the reason? Do you believe they do that? Is that a demonstrated, well-accepted medical or scientific phenomenon?

A. No, I don't think so. As I said, I think there are some people who very strongly argue for that and provide data, and just as equally there are people who -- who --

Q. No, no.

A. -- show that people don't compensate very well.

Q. Not whether they do it well, whether they do it at all, regardless of the reasons, do you accept the view that compensation is a phenomenon among smokers?

A. I would say that there is a -- yeah, that there is a pos -- take all the data, there is some support for the notion that people will to some extent compensate. How well we're not arguing, how many of them do that we're not arguing, --

Q. Or for what reason?

A. Or for what reason. Yeah, there is some people that -- some people will attempt to compensate for --

presumably for the level of nicotine in-- in the cigarette.

Q. Okay. Is there any literature reference you can give me at all that suggests that people compensate in order to get taste from the cigarette?

A. That people compensate for --

Q. Puff more or draw more heavily to get more taste. Are you aware of any scientific article that suggests that?

A. I don't know of any scientific article that suggests that, but I don't believe that that means therefore that it doesn't exist, because when we look at compensation not by substituting other means of delivering the nicotine but by cigarettes, you don't know really what people compensate for. You do not know what they compensate for. You know that they either increase or decrease the amount of cigarettes that they smoke, but why do they do that, I -- you don't know.

Q. Well do you believe people either increase the number of cigarettes they smoke or change their puff patterns or draw more deeply in order to get the throat or upper respiratory effects you described earlier as being important in the behavior of cigarette smoking?

A. I don't know that for a fact, but I think that it's as eminently possible as it is that they compensate for nicotine.
Q. Is it probable, medically probable that they do that? Not possible, but probable?
A. As probable as it is that they compensate for nicotine.
Q. Is there a literature reference you can give me that --
A. No, I already said no.
Q. No, that was about taste.
A. I'm sorry.
Q. Different question in fairness to you.
A. I'm sorry.
Q. This question is: Can you give me a single literature reference that says that smokers compensate in order to get the upper respiratory effects in the throat from the smoke?
A. No, I can't give you a reference like that.
Q. Again at the bottom of page 5 or 6 there's a statement about drug professionals I think, is -- is it. Why don't you read that statement for me?
A. That's on page 5 according to this numbering system, in the bottom of the page, and it says, "The basic conviction of most of the professionals working

with drug users is that quitting is eminently possible for any person using any drug," and in brackets, (e.g. Prochaska & DiClemente).

Q. That is --

A. That's sufficient.

Q. That's fine.

A. Okay.

Q. And that statement is not limited to nicotine and cigarettes?

A. It's decidedly not limited to nicotine and cigarettes.

Q. It's the entire array?

A. Absolutely.

Q. And is the converse also true, that it may not be possible for some people to quit the use of any psychoactive substance?

A. No, I don't think that the converse is equally true, no. I don't believe that there is any evidence. I don't even know how it will be demonstrated that people -- that it's not possible for some people to quit a psychoactive substance.

Q. Well you do a great deal of work in alcohol. It's mostly animal work; true?

A. Both.

Q. Animal and humans?

A. That's correct.
Q. I take it, doctor, you have an exquisite understanding of alcohol use and dependence upon alcohol. Don't be modest now.
A. I'm saying at the risk of being not modest, probably.
Q. Does the use of alcohol, chronic use, affect the ability of the person using the alcohol to make decisions about the continued use of alcohol?
A. Specifically about the continued use of alcohol?
Q. Yes.
A. It interferes with it, sure.
Q. Uh-huh. And can -- depending upon the chronicity of the alcohol use or the amount or the age of the person or many factors perhaps -- can that alcohol use interfere on a permanent basis with the person's ability to stop the use of alcohol in your judgment?
A. Can it interfere on a -- on an ongoing basis? Permanent I will -- but on an ongoing basis with the ability of the person to this, yes, yeah, the answer is yes, but it is not -- doesn't mean at least in my opinion that that person therefore is incapable. It's more difficult for him, but it doesn't mean that

he cannot.

Q. All right. So that in the alcohol example we've been using, the alcohol is a factor in the person's evaluation of where they are in terms of their drinking and it interferes to some degree with the decision-making?

A. That's correct.

Q. It interferes to some degree with the person's ability to choose to some degree?

A. To some degree, yes.

Q. What about cocaine, the same set of questions?

A. Less than with alcohol.

Q. It interferes to a lesser degree?

A. To a lesser degree, much lesser degree than alcohol and for -- for important reasons, but yes.

Q. Does cocaine though nevertheless interfere with the person's ability to make clearheaded, rational decisions about continuing that behavior?

A. It does interfere with that, yeah. As I said, less than alcohol but it does interfere in that.

Q. Okay. How about amphetamines?

A. The same.

Q. And in this sort of constellation that we're building we have alcohol, we have cocaine being less of an interference, where do the amphetamines fall?

A. I would say that the amphetamines go even less than cocaine.
Q. Okay. Heroin?
A. Well, at the same level as alcohol.
Q. Okay. Nicotine, does nicotine interfere to any degree with the ability of a smoker to decide to continue that habit or not?
A. By virtue of the fact that nicotine -- that some people have difficulties in quitting smoking, we have to say that the use -- by definition then we have to say that the usage of nicotine interfered with their ability to -- to stop it, its by definition, so the answer is yes. Again in that scheme, I would say that that's way below any of the drugs that we have included so far.
Q. How about caffeine, does caffeine interfere in your judgment with an individual's desire to quit drinking coffee if they so desire?
A. Absolutely, yes.
Q. Pardon me?
A. Yes. Again I would -- and I don't have -- now I've giving you an impression. I don't have data on that. I would -- I would put caffeine and cigarettes at about the same level.
Q. How about marijuana?

A. Higher than, it also interferes. I mean all of these drugs, you know, to some extent interfere in the ability of the person to make decisions about the -- to use your terminology, the continued use of the -- of the drug, but -- so it's -- it's higher than the nicotine and caffeine, certainly lower than -- than -- than alcohol and heroin.

MR. SILBERFELD: Off the record.

(The proceedings were in recess at 4:33 p.m.)

C E R T I F I C A T E

I, Judy A. Steinke, hereby certify that I am qualified as a verbatim shorthand reporter; that I took in stenographic shorthand the testimony of ZALMAN AMIT, Ph.D., at the time and place aforesaid; and that the foregoing transcript, Volume I, consisting of pages 1 through 215, is a true and correct, full and complete transcription of said shorthand notes, to the best of my ability.

Dated at Deerwood, Minnesota, this 30th day of August, 1997.

Judy A. Steinke
Shorthand Reporter
Notary Public

S I G N A T U R E P A G E

I, ZALMAN AMIT, Ph.D., the deponent, hereby certify that I have read the foregoing transcript, Volume I, consisting of pages 1 through 215, and that said transcript is a true and correct, full and complete transcription of my deposition, except per the attached corrections, if any.

(Please check one.)

_____ Yes, changes were made per the attached

(#) _____ Signature Page Addendums.

_____ I have made no changes.

ZALMAN AMIT, Ph.D.
Deponent

Sworn and subscribed to before me this day of

, .

Notary Public

My commission expires .